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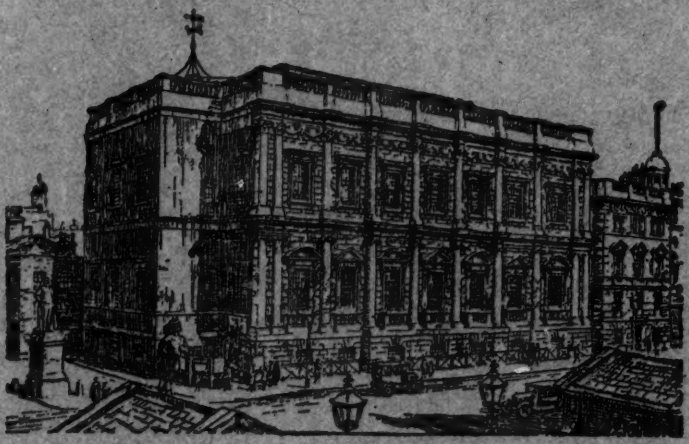

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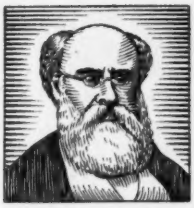

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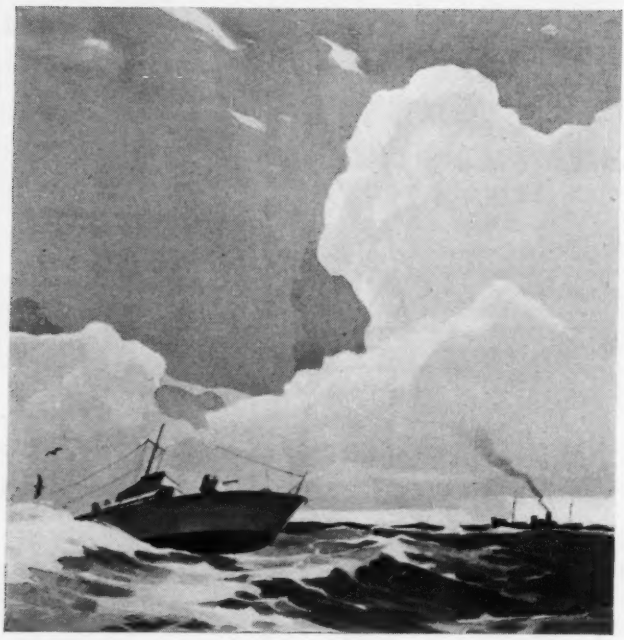

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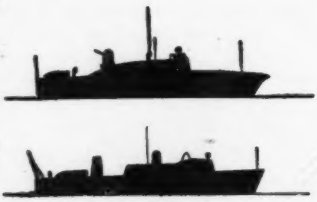

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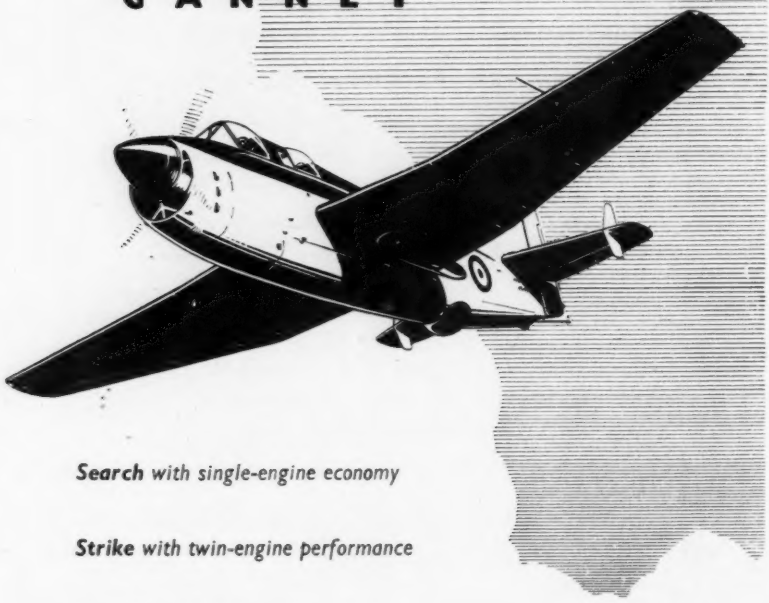

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Marshal of the Royal Air Force The Lord NEWALL, G.C.B., O.M., G.C.M.G., C.B.E., A.M.
Air Chief Marshal Sir JAMES M. ROBB, G.C.B., K.B.E., D.S.O., D.F.C., A.F.C.
(*Vice-Chairman of the Council*).

Royal Auxiliary Air Force and Royal Air Force Volunteer Reserve

Air Vice-Marshal W. M. YOOL, C.B., C.B.E.

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THE INSTITUTION

The Institution is situated opposite the Horse Guards in Whitehall. It provides members with a comfortable reading room containing the leading papers, periodicals, and principal Service (including foreign) Journals.

There is a lecture theatre where lectures are given followed by discussions in which officers of every rank are encouraged to take part.

Members can obtain on loan four volumes at a time from the best professional library in the Country. They are provided with a free copy of the JOURNAL.

There is a private entrance to the celebrated R.U.S. Museum in the former Banqueting House of old Whitehall Palace.

MEMBERSHIP

Commissioned officers on the active and retired lists of all H.M. Services, including those of the Dominions and Colonies, also midshipmen of the Royal and Dominion Navies, the R.N.R., R.N.V.R., and R.N.V.S.R. are eligible for membership without formality.

Retired officers of the Regular and Auxiliary Forces, including the Home Guard, whose names no longer appear in the official lists, are eligible for membership by ballot.

Ladies whose names appear or have appeared in the official lists as serving or having served as officers in any of the three Services are eligible as above.

Naval, military, and air force cadets at the Service Colleges are eligible on the recommendation of their commanding officers.

Officers' messes are not eligible for membership, but may subscribe to the JOURNAL.

SUBSCRIPTION

The rates of subscription are :—

	£	s.	d.	
Annual subscription	1	10	0	
Life subscription	24	0	0	
or four yearly instalments of	6	6	0	each
Covenanted life subscription—seven yearly instalments of ...	3	12	0	,,

Full particulars of membership with alternative forms for bankers' orders, and for deeds of covenant enabling the Institution to recover income tax, can be obtained on application to the Secretary, R.U.S.I., Whitehall, S.W.1.

The JOURNAL is published in February, May, August, and November. Copies may be purchased by non-members, price 10s. 0d. Annual subscription, £2 post paid. Orders should be sent to the Secretary, Royal United Service Institution, Whitehall, S.W.1.

MUSEUM

The R.U.S. Museum is open daily from 10 a.m. to 5 p.m., except on Sundays, Christmas Day, and Good Friday. Members may obtain free passes for their friends on application to the Secretary.

Members of the Services in uniform are admitted free.

SECRETARY'S NOTES

February, 1953

ANNIVERSARY MEETING

The Anniversary Meeting will be held at 3 p.m. on Tuesday, 3rd March, 1953. The Council will present their Annual Report and Accounts, and there will be an election to fill vacancies on the Council. Copies of the Annual Report and Accounts for 1952 can be obtained on application to the Secretary.

CORONATION

Details of the arrangements for members and their guests to see the Coronation Procession in Whitehall on 2nd June were published in the Secretary's Notes of the JOURNAL for November, 1952, and a form for application for tickets was enclosed.

The Ballot will take place soon after 21st March, when the application list closes, and the results will be posted to all applicants on 31st March.

The following further details are published for the information of applicants :—

(i) Camp chairs, etc., should not be brought for use in the standing enclosures.

(ii) A maximum of two guests is allowed for each member, but it is not necessary for the member to accompany his guests.

(iii) Every member and guest must have an individual ticket for admission to the Institution or Banqueting House.

(iv) The charge for a " Members Only " ticket for the Reading Room has been fixed at £2.

(v) Further information will be sent to all members successful in the Ballot.

COUNCIL

Elected Members

Lieut.-General Sir George Erskine, K.C.B., K.B.E., D.S.O., has been elected a Member of the Council in the vacancy caused by the resignation of Major-General R. A. Hull, C.B., D.S.O., posted.

Captain J. A. Creed, V.R.D., R.N.V.R., has been elected a Member of the Council in the vacancy caused by the retirement of Captain C. B. Sanders, C.B.E., V.R.D., R.N.V.R., from the active list.

Ex Officio Member

Air Chief Marshal Sir William F. Dickson, G.C.B., K.B.E., D.S.O., A.F.C., has accepted the invitation of the Council to become an ex officio Member of the Council on taking up the appointment of Chief of the Air Staff.

NEW MEMBERS

The following officers joined the Institution between 21st October, 1952, and 19th January, 1953 :—

NAVY

Sub-Lieutenant T. C. R. Adams, R.N.V.R.
Commander W. G. C. Elder, O.B.E., R.N.
Commander N. H. Pond, R.N.

Lieutenant H. S. Bennett, R.N.
Lieutenant M. Terrell, R.N.
Commander C. E. C. Dickens, R.N.
Captain J. F. Parsons, M.C., R.M.
Lieutenant-Commander H. B. Baker, R.N.
Lieutenant N. S. Stewart, R.M.
Lieutenant J. D. M. Blyth, R.N.V.R.
Lieutenant-Commander (S) D. A. P. Stephens, R.N.
Lieutenant (Sp) J. K. V. Bowles, R.N.V.R.
Lieutenant M. L. Stacey, R.N.
Lieutenant (S) K. Cook, R.N.
Lieutenant (S) W. L. Critchley, R.N.

ARMY

Major G. F. Ayton, R.A.O.C.
Major D. G. C. Cuppage, M.B.E., The West Yorkshire Regiment.
Captain G. Burch, Royal Artillery.
Captain B. E. A. Tolmie, Royal Army Educational Corps.
Lieut.-Colonel L. H. Mackay, Royal Artillery.
Captain H. Crawford, late Indian Army.
Major W. E. Martin, Royal Artillery.
Lieut.-Colonel N. Bickford, R.A.M.C.
2nd Lieutenant W. H. Riley, Royal Artillery, T.A.
Major J. R. L. Pountney, Royal Artillery, T.A.
Major W. J. Smith, R.A.O.C.
Captain G. D. C. H. Lewis, 10th Royal Hussars.
Captain J. H. W. Marr, 13th/18th Royal Hussars.
Lieut.-Colonel W. L. Roberts, late The Middlesex Regiment.
Captain Pritam Singh Sidhu, Regiment of Indian Artillery.
Major L. E. O. T. Hart, M.B.E., 21st S.A.S. Regiment (Artists), T.A.
Lieutenant C. H. Reavley, R.A.S.C.
Major K. G. Comerford-Green, The Wiltshire Regiment.
Brigadier G. D. G. Heyman, C.B.E.
Captain G. G. W. Brown, Royal Artillery.
Lieutenant J. C. Crimeen, Australian Infantry, C.M.F.
Lieutenant P. O. Merlott-Chitty, Royal Engineers.
Captain J. E. Buchanan, The Black Watch.
Captain H. M. Dove, The Royal Scots Fusiliers.
Captain C. N. S. Drew, Royal Artillery.
Lieut.-Colonel W. M. Grylls, late Indian Army.
Major A. Young, R.A.O.C.
Captain D. D. Ranft, Royal Signals.
Major E. C. Palmer, Royal Signals, T.A.
Major I. S. Bisset R.A.S.C.,
Major R. P. Tong, O.B.E., The Queen's Own Royal West Kent Regiment, R.A.R.O.
Brigadier-General C. G. Higgins, C.M.G., D.S.O., D.L.
Captain E. F. Twiss, Royal Engineers.
Major P. S. Banbury, M.C., Royal Signals.
Lieutenant M. D. Young, M.C., The Royal Northumberland Fusiliers.
Lieutenant J. H. Fitzmaurice, Royal Engineers.
Brigadier A. J. Edney, C.B.E.
Captain F. D. Carson, Seaforth Highlanders.
Captain W. B. Fairbairn, late General List.
Lieut.-Colonel T. R. L. Greenhalgh, Royal Artillery.

AIR FORCE

Wing Commander L. M. Whetham, D.S.O., D.F.C., A.F.C., R.A.F.
Squadron Leader G. W. Bennington, D.F.M., R.A.F.
Squadron Leader R. W. Johnstone, R.A.F.
Squadron Leader H. G. Slade, R.A.F.
Wing Commander P. W. Cook, R.A.F.
Wing Commander J. B. Holgate, D.F.C., A.F.C., R.A.F.
Group Captain R. G. Harman, D.F.C., R.A.F.
Squadron Leader F. Jackson, R.A.F.
Flight Lieutenant M. G. Dyer, R.A.F.
Wing Commander H. R. P. Patterson, O.B.E., R.A.F.
Squadron Leader T. J. Da C. Andrade, R.A.F.
Flying Officer R. A. Stubings, R.A.F.
Squadron Leader J. M. Forbes, R.A.F.
Squadron Leader B. C. A. Fox, R.A.F.
Wing Commander B. H. Becker, R.A.F.
Flight Lieutenant P. G. P. Henson, R.A.F.
Squadron Leader S. H. Martin, R.A.F.
Flight Lieutenant R. F. A. Wren, R.A.F.
Wing Commander B. S. Gibson, R.A.F.
Squadron Leader W. J. Swift, R.A.F.
Flight Lieutenant K. W. Taylor, R.A.F.
Squadron Leader F. J. Colgan, R.A.F.
Group Captain J. F. Newman, D.S.O., D.F.C., R.A.F.
Squadron Leader A. A. Smailes, R.A.F.
Flight Lieutenant G. H. Burgess, R.A.F.
Group Captain F. G. Smith, R.A.F.
Flight Lieutenant W. H. Hewlett, R.A.F.

PRIZE MEMBERSHIP

Pilot Officer J. L. Harrison, R.A.F., has been awarded five years' free membership of the Institution.

COVENANTED SUBSCRIPTIONS

The Council hope that many more members will support the scheme for covenanted subscriptions, details of which have been circulated to all members.

This materially assists the Institution because it enables income tax at the full current rate to be reclaimed on each subscription. It is emphasized that a Deed of Covenant entails no additional expense to the member, but it goes a long way towards meeting the increased essential costs of administration. Second and subsequent covenants may be executed at the old rate of £1 5s. 0d. per annum. The Council wish to thank the many members who have re-covenanted since the beginning of the year.

To date, there are 1,450 annual and 691 life covenanted members.

Any member who has not received his copy of the scheme or who requires new forms is requested to communicate with the Secretary.

LIAISON OFFICERS

With the object of making the facilities afforded by membership of the Institution better known to the Services, the Council have invited the principal Commands at Home and Overseas to nominate Liaison Officers.

It is hoped that the Liaison Officers will be able to suggest, from time to time, ways in which the Institution can be of greater value to the serving officer.

Liaison Officers are provided with particulars of the Institution and forms to enable them to enrol members without further formality.

The following is a list of officers who have been nominated as Liaison Officers, and the Commands or Establishments they represent :—

Establishment or Command	*Name*
Amphibious Warfare Headquarters	Lieut.-Colonel N. H. Tailyour, D.S.O., R.M.
Joint Services Staff College ...	Major P. E. C. Tuckey.
Office of the High Commissioner for India...	Major B. S. Ahluwalia.
ROYAL NAVY	
Home Fleet	Commander N. R. Corbet-Milward, R.N.
Flag Officer Air (Home)	Lieut.-Commander J. A. Douglas, R.N.
Flag Officer, Scotland	Commander J. S. H. Lawrence, R.N.
H.M.S. *Excellent*	Vacant.
H.M.S. *Dryad*	Lieut.-Commander V. N. Graves, D.S.C., R.N.
Flag Officer, Submarines	Captain B. W. Taylor, D.S.C., R.N.
Reserve Fleet	Commander (S) G. H. Nicholls, O.B.E., R.N.
R.N. Barracks, Chatham... ...	Lieut.-Commander F. Meynell, R.N.
R.N. Barracks, Devonport ...	Captain (S) H. C. Lockyer, R.N.
R.N. Barracks, Portsmouth ...	Lieut.-Commander P. R. G. Worth, D.S.C., R.N.
R.N. College, Greenwich	Lieut.-Commander P. J. Hutton, D.S.C., R.N.
Portsmouth Group, R.M. ...	Lieutenant A. Higson, R.M.
Plymouth Group, R.M.	Lieut.-Colonel T. P. Honnor, R.M.
ARMY	
Anti-Aircraft Command	Lieut.-Colonel W. P. L. Lawson, M.C.
Eastern Command	Lieut.-Colonel C. L. C. Roberts, M.B.E.
Northern Command	Lieut.-Colonel C. M. F. Deakin.
Northern Ireland District ...	Major G. D. Dunlop, M.B.E., M.C.
Scottish Command	Lieut.-Colonel A. Gordon, M.C.
Southern Command	Major J. M. Howson.
Western Command	Major A. J. Bayley, M.C.
East Africa Command	Major J. Holmes.
British Troops in Austria ...	Vacant.
Far East Land Forces	Major O. C. S. Dobbie, M.B.E.
B.A.O.R.	Lieut.-Colonel S. R. M. Hamblin.
B.E.T.F.O.R.	Lieut.-Colonel A. C. Clarke, O.B.E.
Staff College, Camberley	Colonel M. St J. Oswald, D.S.O., M.C.
Pakistan Military Academy, Kakul	Major Ch. Mohd. Shaukat Riza, R.P.A.
ROYAL AIR FORCE	
Bomber Command	Group Captain J. N. Tomes.
Fighter Command...	Squadron Leader K. Dear, D.F.C.
Coastal Command...	Squadron Leader M. Mays.
Flying Training Command ...	Wing Commander C. D. Milne, O.B.E., D.F.C.
Technical Training Command ...	Group Captain C. W. Dicken, C.B.E.
Transport Command	Wing Commander C. V. Winn, D.S.O., O.B.E., D.F.C.

Maintenance Command	Wing Commander W. G. Morgan, O.B.E.
Home Command	Air Commodore T. B. Prickman, C.B.E.
Far East Air Force	Wing Commander R. O. Buskell, D.F.C.
Second Tactical Air Force ...	Wing Commander C. S. W. Harte.

GOLD MEDAL AND TRENCH GASCOIGNE PRIZE ESSAY COMPETITION, 1953

Particulars of this competition will be found in the leaflet in this JOURNAL.

MUSEUM

A walnut Cabinet containing the following Robes and Mantles worn by the late Field-Marshal The Viscount Wolseley, K.P., G.C.B., O.M., G.C.M.G., has been placed in the entrance hall of the Museum :—Viscount's Coronation Robe ; Peer's Robe (Viscount) ; Mantles of the Orders of Saint Patrick, the Bath, and Saint Michael and Saint George ; and a Viscount's Coronet.

ADDITIONS

The Orders given by Lieut.-Colonel H. K. Sadler, D.S.O., M.C., should be described as follows and not as shown in these Notes in the JOURNAL for November, 1952 :—

The Orders, etc., of Lieutenant-General The Rt. Hon. Sir Henry Knight Storks, G.C.B., G.C.M.G., D.C.L.

A sabretache of The Lanarkshire (Queen's Own Royal Glasgow) Yeomanry, 1896 (9574). Given by Major Meredith Hardy.

A cross-belt pouch of The Lanarkshire (Queen's Own Royal Glasgow) Yeomanry, 1896 (9575). Given by Major Meredith Hardy.

A broadsword of an officer of The Argyll and Sutherland Highlanders, 1908 (9576). Given by Major Meredith Hardy.

A commemorative medallion of the Treaty of Peace signed in Paris on 30th May, 1814 (9577). Given by Brigadier W. E. Clark.

A pair of epaulettes as worn by a Deputy Master of Trinity House, 1850 (9578). Given by Mrs. H. Waddilove.

A pair of epaulettes as worn by a Lieutenant of the City of London (Civil), 1850 (9579). Given by Mrs. H. Waddilove.

A sabretache with slings as used by an officer of the Royal Artillery, 1865 (9580). Given by Miss H. C. Bolton.

A cross-belt and pouch as worn by an officer of the Royal Artillery, 1865 (9581). Given by Miss H. C. Bolton.

A full-dress uniform of a colonel on the Staff, 1914 (9582). Given by Lady Everett.

JOURNAL

Offers of suitable contributions to the JOURNAL are invited. Confidential matter cannot be used, but there is ample scope for professional articles which contain useful lessons of the recent war ; also contributions of a general Service character, such as strategic principles, command and leadership, morale, staff work, and naval, military, and air force history, customs, and traditions.

The Editor is authorized to receive articles from serving officers, and, if found suitable, to seek permission for their publication from the appropriate Service Department.

Army officers are reminded that such articles must be accompanied by the written approval of the author's commanding officer.

CHANGES OF ADDRESS

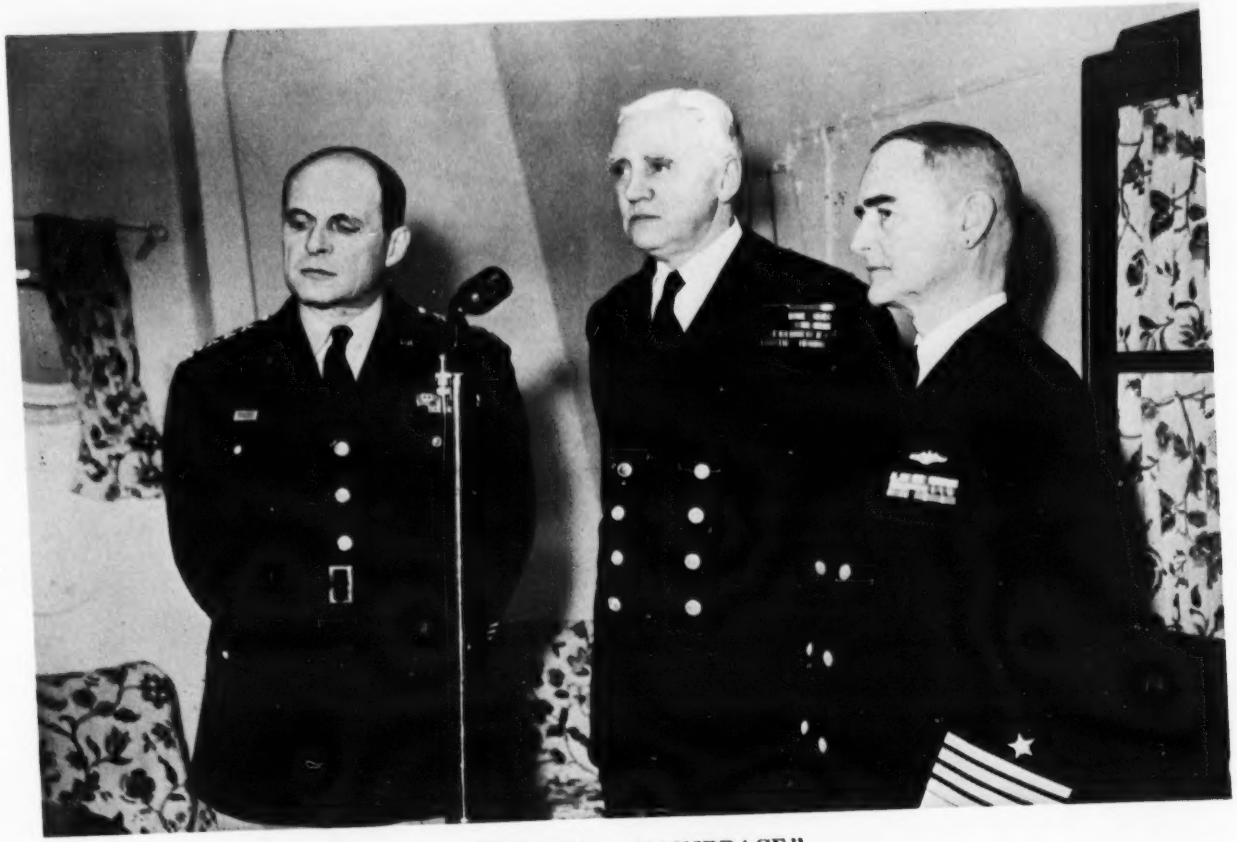
Members are particularly requested to notify any change of address which will affect the dispatch of the JOURNAL.

Naval officers are strongly advised to keep the Institution informed of their address, as JOURNALS sent to them via C.W. Branch of the Admiralty are invariably greatly delayed.

FOR SALE

THE STRATEGY OF THE SOUTH-EAST ASIA CAMPAIGN

Owing to the demand for copies of the above-named lecture, given in 1946 by Admiral the Earl Mountbatten of Burma, arrangements have been made for a reprint, with the appropriate pull-out map; price 2s. 6d., post paid.



EXERCISE "MAINBRACE"

September, 1952

GENERAL MATTHEW B. RIDGWAY (U.S.A.)
Supreme Allied Commander, Europe

ADMIRAL LYNDE D. McCORMICK (U.S.A.)
Supreme Allied Commander, Atlantic

ADMIRAL SIR PATRICK BRIND, G.B.E., K.C.B.
C.-in-C., Allied Forces, Northern Europe

THE JOURNAL
of the
Royal United Service Institution

Vol. XCVIII. FEBRUARY, 1953. No. 589.

THE FEDERATION OF EUROPE

By Mr. WILLIAM D. CLARK, M.A.

On Wednesday, 15th October, 1952, at 3 p.m.

ADMIRAL SIR HENRY MOORE, G.C.B., C.V.O., D.S.O., in the Chair

THE CHAIRMAN: I do not think it is really very necessary for me to introduce our lecturer, Mr. William Clark, who is going to talk about the federation of Europe. You have probably read his articles and writings in *The Observer*, and you may have heard him on the B.B.C. or seen him on television, but if there is anything more that you want to know about him, he was one of the members of the British Information Service in America during the war. He has also held a job which sounds a very frightening job to me; he was the European editor of the *Encyclopaedia Britannica*. And now he is the diplomatic correspondent of *The Observer*. As a personal note, I might say that I have had the great privilege lately of working with him in a study group dealing with Anglo-American relations, and I know what a very wide scope his information and knowledge cover. But that is not really connected with the lecture this afternoon, so I will ask him, if he will, to talk to us about the federation of Europe right away.

LECTURE

THANK you, Admiral Moore, very much indeed. I am delighted to try to talk on this topic of the Federation of Europe which suffers, however, as a topic from the difficulty of not being very precise. The difficulty always in speaking about the future of Europe, or even its present state, is to decide what it is that we are trying to talk about. As a text, "The Federation of Europe" is a fairly good beginning, but you will find me straying a long way from it.

I remember a man who once came down to preach at my school. He rather surprised us by taking as his text a verse from the Old Testament, which runs "Uz begat Buz." However, he started by saying that his text would have little to do with his sermon.

In the same way, I do not intend to stick to the subject of the federation of Europe, which is a subject in itself which needs further definition. I want to try to indicate to you what I think has been happening in the last year or so in Europe as a result of the re-emergence of Germany.

THE GERMAN PROBLEM

The reasons for Germany re-emerging as a Power go back to our relations with Russia, to the need for troops, to the impossibility, perhaps, of holding down Germany, so that two years ago it was decided that Germany should some day contribute to the defence of Europe. From that decision has emerged a great deal of what we now mean by the federation of Europe.

I should like to begin by trying to dissociate the phrase, the federation of Europe, from a large number of other concepts which have arisen since the end of the war which are said to be approaches towards federation, though they are not. Practically all the moves which were made between 1945 and 1951, or even 1952, towards the *integration* of Europe were in no sense a move towards the *federation* of Europe. Take, for instance, the whole work of the Organization of European Economic Co-operation, which, you will remember, is the organization which was set up as a result of the Marshall Plan. That organization has done a very great deal of valuable work. It has liberalized trade—that is to say, it has reduced quota systems so that it is easier for goods to pass frontiers. It has done a great deal to co-ordinate the economic policies of the various countries in Europe.

But if you ask yourselves: "What has the O.E.E.C. done to make Europe more of a federated State that it was before?", you must answer that it has done absolutely nothing. People are unwilling to admit this, because it is an unpalatable truth. In 1914, when there was a gold standard which applied in Britain and virtually the whole of Europe, there was a far greater measure of European economic integration than there is today as a result of five or six years of work by the O.E.E.C.

We tend, particularly in Britain, to gloss this over because we wish to indicate that we are making progress, but we are making progress from a point which is a very long way back. In 1946 or 1947, Europe was more disintegrated than it had ever been in its long history.

European Integration

The important point is this: as a result of all the efforts towards integration which have taken place since the end of the war we have only moved part of the way to the position that existed in 1914 when, in spite of considerable tariff walls, it was easy for goods to be shipped from one country to another in Europe. If the tariff was paid there was no such thing as a quota or an embargo, and it was therefore possible for goods to move more freely, and for currency to move far more freely, under the gold standard of 1914 than it has been under all the European Payments Unions and O.E.E.C. committees that have been set up between 1947 and 1952.

Secondly, there is the organization called the Council of Europe, which is a very important body. It has been represented frequently as being the egg of a new federated Europe, the origin of an organization like the Continental Congress of United States from which eventually the more perfect Union of the United States grew up. The Council of Europe has been represented as the beginning of the federal process for Europe.

But again I would ask you whether there is any real truth in this at all. If you attend, as I have often done, the Council of Europe debates you will discover that there is indeed a great deal of discussion about the policies of other countries by Members of Parliament who are not responsible authorities speaking for their Governments but are speaking for themselves. That is grand and useful. But what effect at all does that have on British foreign policy. What effect has the Council of Europe had on British decisions about foreign policy since the war? I suggest to you quite honestly that it has had virtually none. I would say the same applied to Italian policy. I would say the same applied to Belgian policy.

Council of Europe

What the Council of Europe has done which is valuable has been to indicate that there is a desire on the part of some of the members to move towards closer

union ; but also it has indicated that there is no desire on the part of the Scandinavian countries or Britain so to do. Secondly, the Council of Europe is an indication of the desire that there should be what is called a 'democratic' foreign policy ; by which is meant one which is explained and discussed publicly and not one which is made entirely in secret. That has some merits and it also has some demerits. The difficulty about public agreements publicly arrived at is that so often it only results in public disagreements very publicly aired. In brief, whatever else it has done, the Council of Europe has not been a move towards a federated or united Europe.

Thirdly, there is the Brussels Pact. This was probably the most important move towards something that could be called a united Europe of any that I have spoken of, because it involved the exchange of defence information at a high level. It has, of course, virtually ceased to operate. I am told that the Brussels Treaty Conference meets once a month in London, but that the last 12 meetings have none of them occupied more than 10 minutes, apart from lunch. I think the reason is quite simple, and that is that it has been overtaken by more important events with N.A.T.O. For, although it was perhaps intended originally to be a move towards greater co-operation, there was absolutely no sign of any variation in sovereignty.

What you are getting, in fact, if you look at all these things, is something which was based on a model, familar to us all, which is that of the British Commonwealth. The nations of the British Commonwealth are genuinely independent and have complete sovereignty of their own. Occasional details are discussed as to the exact nature of that sovereignty, the right of the Privy Council to intervene, and so on, but in fact, in substance, and in essence, as we all know, and as the nations themselves all know, the members of the British Commonwealth are independent countries, they remain independent, and they are jealous of their sovereignty. They do, however, exchange information and try to co-ordinate policies to a degree which has never been equalled in any association of nations in the history of the world.

I do not want to sound as though I was criticizing the British Commonwealth when I say that the approach in Europe was no more than that. The fact is that there is a spirit of genuine co-operativeness within the British Commonwealth which derives from the fact that we were more closely linked together and have voluntarily made these links looser ; but they remain of great sentimental importance and of very great practical importance.

Commonwealth Model

The countries of Europe have no history of being united together, and therefore, in moving towards a unity like that of the British Commonwealth, they had none of the background which the nations of the British Commonwealth have. I suggest that what happened was this. Britain was quite prepared to co-operate with the nations of Europe on the basis of the British Commonwealth experiment. That is to say, we were perfectly prepared to exchange information. We were prepared to exchange as many copies of our Blue Books with anyone in Europe who wanted them as could be afforded by the Paper Controller. We were prepared to discuss with anyone who wished what our trade policies were and prepared to discuss with the nations most closely our neighbours the nature of our defence policy. What we were not prepared to do was to say that these nations should do more than discuss with us ; there was no suggestion of any laying down of sovereignty.

So until the beginning of this year, although there had been a very great deal of talk about united Europe, there had not been any very substantial move in that

direction at all and Europe in 1950 was no more united—in fact, in my opinion, it was less united—than was Europe in 1913 or 1914.

Federal Revolution

When we talked of " a united Europe " the British aim was a union based on the exchange of information and the maintenance of sovereignty. That was not the aim of certain other countries. What has in fact happened ? There has been a real approach not towards a commonwealth solution of the European affairs but towards a *federal* solution based on the United States experiment. This experiment involves six countries, the three big ones being Germany, France, and Italy, and the three small ones being the Benelux countries, Belgium, the Netherlands, and Luxembourg.

Those six countries have been discussing recently two very important projects, one of which is now, in effect, the Schuman Plan Pool of Coal and Steel, and the other is the European Defence Community. Perhaps because of a lack of sense of drama in Europe, perhaps because of the failure of newspapers, this very important change that has been taking place recently in Europe has been largely overlooked in Britain. Many people in Britain are of the opinion that the Schuman Plan Pool and the European Defence Community are further steps along this road that we charted some time ago, the road of the O.E.E.C., the Council of Europe, and so on ; the road of co-operation between sovereign nations. We in Britain are inclined to feel that if we go on co-operating for a long time we shall eventually be as good as federated. But the federating countries were not aiming at co-operation on a sovereign basis. They were aiming at something quite different, and I think they are beginning to get it, and that is a federal merger of sovereigns.

In the last three months we have seen the emergence of a new State in Europe. It may be a State which is short-lived—I will come to that later—but we are seeing the emergence of a new State. We are standing today in Europe on the brink of a federal revolution almost as important as the federal revolution of 1776 to 1789 in America. That has been hidden from many of us by the supposition that all that was happening was a continuance of the process of becoming more closely associated.

The Schuman Plan

The only way in which we can understand what is happening in Europe today is, first of all, to look at what actual plans exist, and, secondly, to see why they have been put forward. I will not go into detail about the Schuman Plan or the European Defence Community because many details are still being worked out, but from the last conversation that I had with any authorities of the Schuman Plan Pool it became perfectly apparent that there was every likelihood that within the first few months of next year elections will be held for a federal assembly of the six countries ; that is to say, there will be, in fact, a new Parliament of this new State.

Secondly, it appears perfectly apparent that by the middle of next year, if things go all right, you will have the beginnings of a European Army, which means, in fact, that these states will not merely have—which is important enough—men wearing the same uniforms and taking command in common commands, but, in fact, they will have to pursue the same foreign policy. It is absolutely impossible to have one army and two foreign policies. If France and Belgium wish to do different things with the European Army, they cannot. If there is a single army, there is a single command.

They have approached this far-reaching problem in rather an odd way by creating the instrument first and the policy-making body second. That is what seems to be happening : they are going to have an instrument for controlling their

heavy industry—the Schuman Plan—and an instrument for controlling their armed services—the European Defence Community—and out of these two will arise an instrument for creating a common policy, both economic and foreign, in order to cope with the fact that they are no longer free agents in dealing with their heavy industry or their armed forces.

Causes of Federation

So much for what has actually happened. Why on earth is this happening? It really is a very remarkable occurrence that anything of this sort should happen. Nationalism—that is the right of the State to be independent and sovereign—has been one of the guiding motives, if not *the* guiding motive of European countries in the last 400 or 500 years, and it did not come to a stop a long time ago. The Treaty of Versailles was the high point of nationalism in modern history. At the Treaty of Versailles, under the Wilsonian doctrine of self-determination, it was held that if you had a language, then you should have a State. The theory was that any group of people, virtually, who have some cultural unity should become a political entity. The reason why the Austro-Hungarian Empire was broken up was that it was felt that Austria and Czechoslovakia and Jugoslavia were units which should become political units because they felt, culturally, that they were separate from each other. That was the process going on right up to 1920 or even later, until 1922 if you take what went on in Greece and Turkey. That was the high-water mark of nationalism.

The astonishing thing is that 30 years later nationalism in Europe is at a very low ebb indeed. Early this year I travelled around the countries involved in the Defence Community, and the thing that struck me most was that among civil servants, among ordinary business men, and particularly among intellectuals, there was the feeling that sovereignty, the idea of the sovereign national State, was old-fashioned and no longer worth pursuing.

The question is why that is so. It is, perhaps, easiest to understand if we recognize that it is so for reasons which do not apply to this Country. Most of us in this Country do not share this feeling that nationalism is at an end. I think that the thing that happened has been that the back of sovereignty was broken during the war. It is not easy to be sure about this, because it is not the sort of thing about which records are kept and the internal war-time history of the countries of Europe has not yet been written, and I doubt if it ever will be.

Decline of Sovereignty

The point is that a State is designed to serve in the first instance to defend its subjects against aggression by providing them with safety against bandits both at home and abroad. But every single nation among these six which are federating saw, in the course of the war between 1939 and 1945, their State fail in this objective. They saw it fail completely in various ways. The French saw their State snuffed out by the Germans. So did the Benelux countries. The Italians saw their State taken over by the Germans, and then they saw that State overthrown by the Allies. The Germans saw their State taken over by the Nazis and then that State itself completely disrupted and completely overthrown, leaving them at the mercy of the victorious Allies.

In every one of these cases what happened was that the State, which seems such an eternal thing to us, just disappeared, and ceased to be the protecting power that the people wished it to be. I cannot speak dogmatically, but I believe that that is what lies at the basis of the desire for federation in Central Europe.

The Communist Model

It is not only federalism that has grown out of it. You can see over the whole of Europe that the idea of the national State has been somewhat destroyed by the effects of the war, and two separate ideas have grown up, both of them internationalist in their scope. The first is the idea of the Communist State, which had as its internationalistic thought the old Communist doctrine of " Workers of the world, unite," a doctrine which has been transformed by the Russians into " Workers of the world, be part of the Russian Empire."

The fact that all the countries of Eastern Europe so easily fell into the maw of Russia was partly because of the lack of a strong feeling of national entity. In the West, too, in 1945 and 1946, I found in Germany and France that there were a lot of idealistic left wing people, Communist or pro-Communist, who were saying not so much that they wanted to join Russia as that the wave of the future was carrying them away from the idea of a national State towards that of a great association of Powers. All of these things were ideas that filled the vacuum left by the end of the nationalist idea. Even today a lot of the same sort of people who felt that they wanted to join with Russia in 1945 and 1946, wish to join other nations and become part of some larger community. I do not think it is wise to suppose that the pro-Russian sentiment of 1945 and 1946 was entirely confined to Communists and fellow travellers.

A lot of the small countries of Europe, having been overrun twice—by the Germans in 1940 and by the Allies, who liberated them, in 1944 and 1945—also wished somehow or other to establish themselves as a third force between the two great Powers, Russia and America. A great deal of the force of European unity between 1947 and the outbreak of the Korean War in 1950 came from the desire of countries to stand on their own feet, to associate together, and to stand apart from America and apart from Russia. That was a strong force towards a federal association of European countries.

American Influence

Curiously enough, the strongest single force for federalism in Europe has come from outside Europe, from America. The United States has always, since the beginning of the XXth Century, and perhaps even farther back, had a desire to see a United States of Europe. They have wanted to do that for various reasons, partly out of their historicism. They have regarded the idea of a federal union as being their idea, and so if people would copy them it would prove that their idea was right and also prove themselves to be right.

Mr. Hoffman, who was the Administrator of Marshall Aid, was a vehement advocate of European integration or European unity, and he used to go round in the course of his tours of countries which were receiving Marshall Aid and urge them in no uncertain terms into some form of federal integration. He tended to take the line that in America economic integration had resulted in a vast single market, mass production, and a high standard of living. Turning to Europe, he might have said in the words of the famous advertisement ; " You too can have a body like mine." You too can be like America if only you will federate.

That is part of the American view of what is needed in Europe, which is very strongly felt in Congress. Though it is often expressed rather crudely, in Congress and elsewhere, it has been carefully thought out. This view is based, in a large number of American minds, on the firm belief that, difficult as it may be for Europe to forget its differences between the States, it can never exist economically or defence-wise unless it is prepared to use this system.

The Defence Argument

But since the outbreak of the Korean war, since the setting up of what was General Eisenhower's headquarters in Paris, S.H.A.P.E., there has come another argument which is not the economic one put forward by Mr. Hoffman but the defence argument. This argument, put forward so vigorously by General Eisenhower, held that Europe must unite because otherwise it could not be defended.

Lastly, the thing that actually caused European unity to be more than a glint in the statesmen's eyes was the nature of the statesmen involved. Essentially what we are talking about when we are talking about the federation of Europe at the moment is a federation of Germany and France, and when Mr. Churchill at Zurich in 1946 first used the phrase "a united Europe," that is what he meant. He said he wanted to see France take the hand of Germany and lead her back into the community of Europe. That phrase was at the centre of his thought. In essence, all he wanted was that France and Germany should heal the age-long feud, and the reason he saw that this was essential was that Europe West of the Elbe cannot possibly be defended against Russian-dominated Eastern Europe if France and Germany are at loggerheads. It cannot be done. Many of you know a great deal more than I do about defence problems. I speak only on the authority of what I have been told by those who do know. I do not think anyone believes we can put up a valid defence of Western Europe if France and Germany are enemies.

The question is whether they can be ordinary allies. It is certainly clear to anyone who has travelled much recently in France and Germany, particularly down the Rhine valley, that the two countries are locked in a curiously intimate embrace. They have been enemies, violent enemies, for 70 or 80 years. They have each invaded the other, or rather the Germans have invaded the French and the French have repelled the Germans and occupied Germany. This has had the effect of making the two countries extraordinarily interested in each other and extraordinarily aware of each other and, in my opinion, quite incapable of being united by some loose bond like a diplomatic alliance.

France and Germany

The only two alternatives open to France and Germany since the war have been either a return slowly to enmity or something like union, and they have chosen the latter. The reason why they have chosen the latter depends, in my opinion, very greatly indeed on the statesmen who have been guiding them. Both Dr. Adenauer and M. Schuman are Rhinelanders, born on the Rhine although on opposite sides. Both regard the Rhine as the backbone of Europe, not as the front line trench, and both feel essentially that Europe must be recreated round what was in the era of the VIIIth and IXth Centuries known as the Middle Kingdom, that is the Kingdom of the Rhine. They are both men who speak German as their native tongue. M. Schuman, as you probably know, is an Alsatian and was born a German citizen and served with the German Army in the 1914-18 War. What is much less well known is that Signor de Gasperi, the Prime Minister of Italy, was born in the Austrian Tyrol and also speaks German as his native tongue.

The psychological essence of this determination to unite is that these three men know that the old idea of sovereignty and national interest is something which has exhausted their countries and ruined their own lives—because each of them has been in exile—though Dr. Adenauer's exile was only domestic in that he left his job as Mayor of Cologne and did nothing for 13 years under the Nazis—each has suffered

from the wars of this Century, and each feels very passionately that it is no longer possible for them to continue in a state of disunity. And it is, I think, above all, the French and the Germans—I do not say all of them but many—who feel that they must join together because otherwise they will be involved again in a war. It is those two countries whose unity provides the basis of the federation of Europe.

Opposition to Federation

I am not going to say anything, because I think it is perhaps a waste of time, about the strength of the attitudes against European unity and the federation of these countries. We shall know more about that when the European Defence Community Bill comes up to be debated in the various Parliaments of the countries involved. There is a strong feeling against it. All the Communists and a large part of the left wing, for different reasons, are opposed to it.

There are in Germany a very large number of people who are opposed to it on the grounds that once Germany is a part of the Western European community, the possibility of reuniting Western Germany with the eastern provinces will be reduced. There is a very strong feeling in France that what this so-called European Federation is going to be is simply a greater Germany, a group dominated by the largest partner, which is Germany. I do not think that is by any means nonsense. I think we ought to face the fact in Britain.

On this I should like to close by saying something about what I think our attitude should be. We in Britain ought to face the fact that in Europe there is going to be a new Power, which is this Federal Europe, and that it is going to be to some extent a greater Germany.

What is the alternative? Obviously at first sight the prospect is not a pleasant one, but the alternative seems to be equally devastating. It is to have a violent increase of nationalism again. The alternative to the sort of Schuman Force in France is De Gaulle. The alternative to the Adenauer Force in Germany is, probably, more towards nationalism plus socialism. I do not mean National Socialism but a leftish Government which would be strongly nationalistic.

The possibility of once again having created a conflict between Germany and France in the middle of our joint defence effort is one that no British Government can possibly regard as anything but disastrous. As far as I can make out from statements of policy, the Government is of the same opinion. It is almost certain now that Britain will give all the support it can to the emergence of this federally united Europe in the centre of Europe.

Britain's Policy

The question is whether that is enough for us to do, whether we should simply say, "You go ahead and, as far as possible, we will remain in touch through the Council of Europe." I think it is not. I think there is genuinely a danger of Germany becoming the dominant partner and of a resurgent Germany becoming a danger to us across the Channel. In any case I think this is the lesser of two evils as opposed to the breaking up of our defence effort.

The question is what we ought to do. There I come to the last point that I want to make. How far are we going to go towards creating some community which will contain—if that is the word—this greater Germany, this new federal State in Europe? It seems to me that, unless we create some such community, we in Britain

will be faced by a very great Power across the Channel with which we are not on intimate relations and which we cannot really influence very greatly.

Atlantic Community

I wonder whether it will not become essential for us to build up what is called the Atlantic Community very fast and very solidly so that there will be a community in which the federal Europe will play a comparatively small part. It has always seemed to me that Britain cannot possibly exist in a hostile world in which she does not have close relations with Europe, which is, after all, our neighbour and, as we found in 1944, a neighbour which in hostile hands is extremely unpleasant. Guided missiles would now make it even more unpleasant than it was in the days of the fly-bombs.

Secondly, Britain cannot give up her Commonwealth, because that, to some extent, is our reason for existence.

Thirdly, we cannot get along without close relations with the United States because we are economically very tied up with her and because the United States, which is the greatest Power in the world at the moment, needs, in my opinion, such guidance and advice as we can give. Also, the United States needs us in the sense of a strategic outpost in Europe, and we very definitely need the United States as the real power behind our defence in Europe. In fact, we cannot get along without Europe, without the Commonwealth, and without America.

Somehow or other we have found some means of combining these together, and, while it is by no means perfect, I think the North Atlantic Treaty Organization, as it exists at present, provides the best basis on which we can build. The question which lies before us is: Are we going to try to build the North Atlantic Community in the way that we tried to build a united Europe; that is as a very loose association of wholly sovereign States, or are we going to try to build a North Atlantic Community which is something more solid, possibly something far more like a political community, in which there are organizations for defence and for making economic policy, not just by the process of bargaining but by the process by which policies are arrived at in a single national State, the process of taking the community's interest as a whole, and deciding what is the best for the whole, without paying too much attention to the specific interests of the individual Powers?

As we look at the federation of Europe, the important thing to realize is that we are going to have to do something to enclose that federation in a larger community, and the problem that lies before us is what sort of community we are going to build to contain the European federation, because there is nothing that we can do now to stop the federal European State existing in a fairly short time just across the Channel.

DISCUSSION

Colonel G. S. Fillingham: Does the lecturer consider that the Saar question is completely finished with?

The Lecturer: No, the Saar question is certainly not completely finished with, nor can the Saar question be answered in terms of a completely independent France and Germany. The fact is that if the Saar is really a part of Germany, then France is in a very inferior position in the Schuman Plan Pool; if the Saar is a part of France the Saarlanders are, in fact, incorporated into a country to which they do not feel attached.

This is a slightly difficult question to answer because it inclines to make one sound cynical, but I myself believe that the question must not be settled until Franco-German relations are fairly and properly embedded in the Schuman Plan Pool and the European

Defence Community. Only then can the question be settled in an honest way. For the rest of the time, I think it will always be a balance of conflicting interest which is not likely to help either Power.

LIEUT.-GENERAL SIR GIFFORD MARTEL: The lecturer has told us very clearly in his extraordinarily interesting talk how we see a very powerful Germany coming along and perhaps controlling Europe to a large extent, and he raised the point as to whether that is a danger to us or what we should think about it.

That problem faced us before the war. Neville Chamberlain was anxious about it. He thought he could make terms with Germany and keep her still working with us. He was not supported, and we fought the war instead.

Thinking it all over, perhaps we might feel that a very strong Germany running Europe would be an advantage from our point of view in certain circumstances. First of all, and in a very short time, Germany would be very strong in every way. She could not interfere with us and our Empire for a long time ahead, and between us we could put Russia in her place, and that would get one great trouble out of the way.

Then you would have the world with America on one side faced by two Powers backing each other up, Europe (with Germany) and our Empire. We should then have a proper balance in the world instead of the present state in which America has all the gold and does not wish to take our exports. We could then make the dollar look its proper size.

From that point of view one might perhaps see a favourable outlook. I do not know whether the lecturer would like to remark on that.

THE LECTURER: I would not quite agree with that because of two things. It is a return to a process of balance which has the great disadvantage of frequently leading to unbalance. It would lead to unbalance at the moment. It would be quite possible—probable, in fact—that America, irritated as she so often is by British Commonwealth or Empire policies, would find herself closer to German Europe than to us.

As long as Britain is in the position, which I think she is bound to be, of being dependent for her existence on good relations with Europe, America, and her Commonwealth and Empire, it would be very unwise for us to try to build a world in which those are playing off against each other.

It would be far more satisfactory to us if we could try to arrive at a situation, such as I believe is possible within the Atlantic Community, by which the interests of this Country, of America, of Europe, and of the Commonwealth, were harmonized to as large an extent as possible by human wisdom rather than by playing a game of balance.

My fundamental objection to a game of balance is that it will always give an opportunity to one Power which wishes to ally itself with one or two others in order temporarily to create a great advantage for itself.

I do not think that even a united Europe alone could possibly deal with Russia. The first thing that I feel might happen would be that it would not deal with Russia but would, on the contrary, make a deal with Russia as the Germans did in 1939. That is the danger I always see unless we can bring this new European State into an Atlantic alliance of some sort and anchor it firmly.

COLONEL G. S. FILLINGHAM: If I might go back to the Saar again, that is exactly why I raised the question. In Germany today it is widely discussed whether it is worth bothering about talking with France about the Saar and if it is not better to bargain with Russia.

THE LECTURER: I think that is always a possible way for the Germans to turn. I think we should not forget that.

LIEUT.-COLONEL C. GARSIA: I understood Mr. Clark to begin by saying that he would express no opinion on whether the European federation would succeed or not, but he went on rather on the basis that it would succeed. It seems to me that you have got to consider very carefully the much more likely hypothesis that it will not succeed. It is based on fear, giving rise to the position that it would be unsafe to rearm Germany unless her army was integrated in a European army for the control of which some form of European federation is required.

But, as Mr. Clark knows very well, the number of reasons for supposing that federation just will not work are legion. You could go on for half the day adding them up. This makes it appear that although three countries, each with about 40,000,000 souls, may manage to create a federal structure, it will be found that that structure, which will have to deal with defence, will break down.

That leads me to my question, whether it is not important, in order that this should not cause the collapse of western defence, that the answer to the question arising from the fear about German rearmament ought not to have been sought in the larger framework of N.A.T.O.? Although it cannot perhaps be done openly, ought not we and the Americans even now be preparing and planning for what should be done to meet that contingency? An obvious difficulty is, of course, that the Americans, obsessed as they are with 1776 and all that, would be loath to accept the hypothesis.

THE LECTURER: When I said that I did not think that it would fail, I meant that I did not think that it would not come into being. I mean that the European Defence Community will pass through the various preliminaries without too great difficulty.

As to the point about its being based on fear, I say with some regret that it is unfortunately true that political associations generally are based on fear. It is probably the proper basis for the beginnings of political association. Certainly it was the basis on which the American colonies united. It was once said that, on the whole, men and nations were like hedgehogs who for fear of cold get closer together but, having had to come closer together, their prickles get in each other's way. It is true that the prickles will be felt very strongly when the European nations come together.

There is quite a possibility that the European federation will have a difficult time indeed. However, I do not think it will just break down like that. I think it will be sufficiently loose to be able to weather the storms.

On the other hand, I do not think that this federal European State is an economic, a defence, or even a cultural entity. It is not. It is absurd, for instance, that Denmark should not be in when parts of Schleswig-Holstein are. The lines drawn there are not very good ones. It is equally true that N.A.T.O. is not a community with natural lines. But what is absolutely true is that so long as we are concentrating on a defence project which is having very grave economic effects, the success or failure of European federation will depend on how far N.A.T.O. sees to it that it does succeed. I do not say that we can go dashing ahead with creating an Atlantic community, because of this real difficulty: that until we have got this Franco-German rivalry out of our system, until that is more or less settled, I do not believe we shall succeed in moving along to the next step. That has got to be settled, not once-for-all—no problem is settled once-for-all—but it has to be accommodated for a time before we can move on to the next step.

What I most fear is this. It is easy for people to breathe a sigh of relief and say "Now we have a European army we are moving quite fast and there is no need to worry." As General Ridgway said last night in his speech, there is still a great deal to worry about in regard to our defences, that the defence problem will hold N.A.T.O. together, and that N.A.T.O. will hold together the European federation. If there were suddenly to be an end to the cold war the problems arising would be incalculable. I would be prepared to put money on the European federation continuing to exist because of the extraordinary demand of so many people in those countries that there should not be another war between France and Germany. The detestation of a quarrel which has killed one member of almost every family in those two countries is deeper than many of us realize.

LIEUT.-GENERAL SIR GIFFORD MARTEL: Might I add a small point? Our lecturer talked about the possibility of a new, strengthened Germany running Europe and getting into an alliance with Russia. I spent the last year of the war in Russia and I do not believe for one moment that there is any real, serious danger in that direction at all. The Russian Politbureau is a Jewish set-up, almost entirely run by Jews, and with Russia in that state I do not think there is the least risk of an alliance with Germany. I talked with the members of the Politbureau on many occasions and as a result of my personal examination of these things I do not believe that there is any real danger in that direction.

THE LECTURER: I would just say that I felt much the same thing in the early months of 1939, and was misled. Secondly, while I really do accept what you say, because you have more information than I have, the way in which Eastern Germany is playing along with Russia and Russia is playing along with Eastern Germany seems to indicate that the Russians have a capacity for getting on with some Germans some of the time. But the argument about what the Politbureau will do is no use because they are fairly inscrutable.

ADMIRAL SIR ARTHUR PALLISER: Mr. Clark spoke of the decline of nationalism in modern Europe and threw out the very interesting and, I should think, very probable explanation that it is due to the reaction in those countries that have been over-run in the course of the war. I wonder if he would enlarge a little, if that is the true explanation, as to the reason why Norway and Denmark are so standing out against federation. I do not include Sweden, for she has her own reasons.

THE LECTURER: I cannot give a frightfully good answer to that question. It is not something on which you can say definitely that either alternative is easy. I would first make the point that I think that Norway has, in fact, less violent nationalism than she used to have in the sense that the very fact that she entered the North Atlantic Pact, and pressed to enter it, was a sign that her old isolationism—you remember how strong that was in 1940?—had been broken. I have not been to Norway. I think it is the only member of the N.A.T.O. countries that I have not been to, and so I cannot speak with first-hand experience, but I do not believe that nationalism in Norway is as strong as it used to be, although I am not certain.

On the other hand, I would say that I believe that if Denmark were given absolutely free choice, which is an inconceivable thing, Denmark would like to join the European Defence Community. The difficulty is that she does not feel that she would be defended. That is her great difficulty. Everyone feels that the line that we could hold in Europe lies behind Denmark. Secondly, there is the fact that she has strong relations with the Scandinavian countries, who have themselves moved quite a long way towards closer association, and these were very insistent that she should not join the European Defence Community. There was a time when the European army was first being discussed when Denmark teetered on the question of coming in or of not coming in.

I am giving a partial explanation why it is that these two countries have not become part of the federation. I am aware of the fact that they do not have the same anti-nationalism that the six federating countries have. Possibly there is another explanation, which is that the occupation of both those countries was not as oppressive as was the occupation of the central European countries which were under the heel of Germany and were over-run in turn by the Allies at the liberation. Neither Norway nor Denmark was over-run in quite the same way.

MAJOR-GENERAL G. K. BOURNE: The lecturer has given us extremely convincing arguments why we should help to nurture this new federation which has rather come upon us before we were aware of it. Are we not being rather optimistic about its foundations? Are not fear and economic interest merely short-term bases for the future of the European Defence Community and the Schuman Plan? Ought we not to ask ourselves whether the Wilsonian concept of nationalism and self-determination is not a more deep-rooted thing and, if the pressure from a certain direction which causes our

fear at this moment were lifted, whether the Wilsonian desires would not win the day and the federation tend to separate again? Are we not building up this federation of Europe on a short-term basis for a short-term political urgency?

THE LECTURER: Yes, I think there is a strong possibility that that could be so, but there are two things that make me feel that it probably will not be so. I agree with you that the Wilsonian idea, the feeling of national community or cultural community, is at the moment more long-term than the economic and defence needs, but I would say that if the federation can work out a system by which that form of nationalism is given a proper outlet it will succeed, and also economically and from the point of view of defence it is very efficient for these countries to organize together. To take an instance which I do not believe likely but possible, if Germany not merely becomes the dominant but the dominating partner and starts once again to impose her cultural concepts on Italy, it will break up at once.

It is most unwise to imagine that the idea of self-determination was a mistaken idea. In my opinion, it was carried a little far. For instance, the Austro-Hungarian Empire broke up of its own. But the question is whether it could not have been put into a position where it could grow again. To some extent it has and, with Hungary cut off, we are beginning to get, as a result of Titoism, a certain realignment in that area which bears some resemblance to the other days.

The answer to the question is that unless the federation of Europe can give full and genuine cultural expression and, more than cultural expression, full expression to nationalism within its boundaries, it will fail. For instance, if it does not manage to give the Saarlanders the independence they want, both of France and of Germany to some extent, it will certainly fail. But I do not believe that the forces of cultural nationalism will necessarily break up a political organism which is based on the relief of economic and defence needs.

THE CHAIRMAN: I am quite certain that everybody here now realizes why Mr. Clark has been able to fill so many of the different posts which he has held in the last few years. You have heard the way he covers such a big subject, and not only covers the subject itself but is also prepared to answer questions as easily as he seems to have done. That is an explanation of how you have managed to survive the many jobs that you have held, Mr. Clark.

There are two points to which I should like to draw attention. One is that some of the things that General Ridgway said last night are, I feel, interlocked very much with what Mr. Clark has said. I happen to have had the privilege of hearing his speech, and I imagine that most of you heard it on the wireless. There were several passages in his speech which I feel we ought to read and think over in connection with what our lecturer has been saying this afternoon.

The other point, which I again feel is very often forgotten in this Country when people are discussing why the people in Europe do things in the way they do, is the point that he made when he ended up by saying how he would have felt had he been over-run first by the enemy, then again by his liberators, and finally found himself at that liberator's mercy for peace-time reconstruction. I think we in this Country forget quite what we had to do to some of those countries in order to liberate them. To some extent what happened is one of the reasons why they sometimes want to take a certain course. It is a very important point, and I feel that we ought to remember that.

I am sure that everybody here would like me to thank Mr. Clark very much indeed. We have certainly had a most interesting lecture. I think there are probably very few people who could have given one covering such a wide subject quite so easily. On behalf of everybody here, may I thank you very much indeed, Mr. Clark? (*Applause.*)

THE BISMARCK OPERATION—THE GERMAN ASPECT

By Commander R. F. Jessel, D.S.O., D.S.C., R.N.

On Wednesday, 19th November, 1952, at 3.0 p.m.

Air Chief Marshal Sir James M. Robb in the Chair

The Chairman: This afternoon we are going to look back to one of the most dramatic series of maritime operations of the whole war. These took place in May, 1941, at a time when Britain was standing alone. Holland, Belgium, France, Denmark, and Norway had all been conquered. In early 1941, Yugoslavia had been invaded and Greece had fallen completely by the end of April. By May, in the Atlantic, the convoy situation had become critical and, as you well know, it was upon these convoys that we depended not only for carrying on the war, but virtually in keeping ourselves alive. By mid-March of 1941, the U-boats had sunk over 3,000,000 tons of our shipping in the Atlantic alone. And although enemy air attack on Allied shipping from February to May alone had accounted for more than 600,000 tons, a most hopeful decline in these losses had started, as was apparent by June, as a result of the air measures which had been taken in the Western Approaches Command, a fairly newly formed command at Liverpool. Up till the same month, surface raiders had sunk or captured over 250,000 tons, and it was at the beginning of May that it was known that the new battleship *Bismarck* and the new 8-in. cruiser *Prinz Eugen* were ready for service.

At that time, the battle cruisers *Scharnhorst* and *Gneisenau* were at Brest. The German Staff had hoped that, although the *Scharnhorst* would still be in dock refitting, the *Gneisenau* would be able to sail in time to join in the first sortie of the *Bismarck* and the *Prinz Eugen*. However, it was early in April when a single aircraft of Coastal Command—the only one who could find the target in bad weather—hit the *Gneisenau* with a torpedo and damaged her severely. The aircraft did not return, and nothing was known of this achievement in London. It was not until the *Gneisenau* was photographed in dry dock that it was realized that something had caused her to go there. While there, she was severely bombed by Bomber Command in one of their many raids on Brest. As a result, when the German Naval Staff had hoped for a surface foray into the Atlantic—a combined one which might have had most grave effects on our Atlantic shipping—it was left entirely to the *Bismarck* and the *Prinz Eugen* to carry this out.

It was on the 21st May that the Admiralty received news in London that the northward movement of the *Bismarck* and the *Prinz Eugen* had started. Commander Jessel is going to tell you the German aspect of that most serious challenge in the Atlantic—the *Bismarck* episode. As the title of this lecture, when published, indicated that it was based on German records, I have been asked to make it clear that these records are not generally available, but that our lecturer has *ex gratia* been allowed access to them for this particular lecture.

LECTURE

THERE was no British code name for this operation, but there was a German one. They called it 'Rheinübung.' This emphasizes the fact that, initially, it was a German operation. It was German in conception and German in plan.

By May, 1941, Hitler had given up all idea of invading this Country. Instead, he hoped to bring us to our knees by throttling our war economy—a policy they called "the siege of England." The efforts of his U-boats had been considerably enhanced by the sending out of surface raiders. Some of these, notably the *Hipper*, had achieved a very considerable measure of success. Furthermore, these ships, by their activities, had contained many of our units and prevented them from

being used for other purposes, such as the reinforcement of the Mediterranean Fleet, which at that period was being hard pressed in Greece and Crete. So they wished continuously to renew these operations, but one thing made them pause for thought. The British had taken to sending, at any rate with the more important convoys, a naval escort, sometimes a cruiser, sometimes a battleship. And there had been times when the *Scharnhorst* and *Gneisenau* had been unable to attack a convoy they had encountered, owing to the presence of one of our battleships. They appreciated the need, therefore, for sending a more powerfully armed force. They would like to have sent a really strong task force, but the *Scharnhorst* and the *Gneisenau*, as we have just heard, were at Brest, each in turn having been damaged by the Royal Air Force. The *Tirpitz* was not yet ready, but Admiral Raeder felt he should not wait. He knew Hitler was about to attack Russia and appreciated the need to deal England a really crippling blow before Germany became bogged down in a big campaign in the East. So he decided to send his two new ships—the battleship *Bismarck* and the 8-inch cruiser *Prinz Eugen*.

The plan was that the *Bismarck* should take on any escort, while the *Prinz Eugen* should come in from a widely different bearing and rapidly effect the destruction of the convoy. But, in a rather typical German manner, they added that the *Bismarck* was to be careful not to be damaged herself!

Originally it was intended that they should sail during the full moon period in April, but the *Prinz Eugen* suffered an engine-room defect and sailing was deferred until the second half of May. This postponement was serious because it meant that when they should come to their break-through past Iceland at the end of May, there would be little or no darkness. Thus was born a sense of urgency and hurry which was soon to make itself manifest in an ill-advised decision to hasten the break-through through the Denmark Straits. They intended that the sortie should last some three months, and the *Bismarck*, in addition to her normal ship's company of 2,300, was to carry a prize crew of 80 men, for they intended to take prizes, particularly tankers. In addition to the two warships themselves, there were several auxiliaries—oilers, supply vessels, reconnaissance ships, and weather trawlers. Their positions are shown on the diagram.[1] T stands for tankers, R for reconnaissance ships, and S for supply vessels. The supply vessels also carried a certain amount of oil. The weather trawlers are not shown. All these ships were successfully sailed from the appropriate French or Norwegian ports.

The *Prinz Eugen*, who could carry some 3,000 tons of oil, had very much less endurance than the *Bismarck*, who carried somewhere between 8,000 and 9,000 tons. The most elaborate plans had been arranged for the refuelling of the *Prinz Eugen*—to such an extent that they seem to have become over-confident and unduly casual about the refuelling of the *Bismarck*. In fact, the senior surviving officer said that she actually sailed some 2,000 tons short. This, I think, is very doubtful. The German Admiralty seem to have been of the opinion that she did sail complete with fuel stowage.

The two warships worked up from Gdynia, which the Germans called Gotenhaven. Just before sailing, they had the honour of a visit and 'pep' talk from Hitler. He was in one of his prophetic moods. He foretold not only that they would have great success but also that America would never come into the war.

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[1]The diagram faces page 28.

The Passage North

They sailed by way of the Great Belt and Kattegat, with destroyers and *Sperrebrecher* minesweepers. They were very security-conscious. On the night they sailed and throughout the next day all merchant shipping was kept carefully out of the way at anchor. On the morning of 20th May, they were about at the position marked A on the diagram. As it grew light, much to their chagrin and disgust, they sighted the Swedish warship *Götland*, steaming on a parallel course a few miles away from them in Swedish territorial waters. They guessed their secret would not long remain a secret. Sure enough, that evening radio intelligence reported that British aircraft had been ordered to be on the look-out for two battleships and three destroyers.

The next morning at dawn, when they were in position B, they sighted four unidentified aircraft to the westward. They were at that moment making for the Bergen fiord and spent the day at the place called Korlsfiord, where the *Prinz Eugen* topped up with oil. The *Bismarck* did not do so, an omission she was afterwards to regret. They were very anxious about possible air attack and throughout the day the high-angle gun-crews and control parties were kept closed up. The remainder of the hands painted ship, changing from ordinary camouflage to battleship grey. They sailed in the evening, working up to 27 knots in spite of the wet paint. That night, to the accompaniment of the dropping of flares, there was an air attack on the fiord they had vacated and this gave them confidence that their departure had been undetected.

Now Admiral Lütjens was most anxious for news of the movements of the principal units of the British Fleet, and it had been arranged that there should be a daily reconnaissance of the Denmark Straits and of Scapa. On 20th May a Focke-Wulf had been over the Denmark Straits and had reported that it was foggy there and that the ice gap was some 80 miles in width. On the same day a machine had been over Scapa and had taken a photograph from which they identified two battleships of the *King George V* class, the *Hood*, an aircraft carrier, six cruisers, and a large number of destroyers. The next day the weather had been too thick for any reconnaissance at all, and the following day, 22nd May, it was again thick, too thick for any photographs. But a machine had been over Scapa at noon; when it got back, the observer reported that he had seen all four of the big British ships there. As a matter of fact, he was wrong: two of them had already sailed. But he was believed because there was corroboration of his story from the radio intelligence people, who said that the British wireless traffic gave no indication of any movements of our main units. That information was signalled out by the Commander-in-Chief, Group North, to Lütjens. Lütjens had always expected that the most likely point of interception would be off Cape Farewell. His noon position that day had been 1,200 miles from Cape Farewell. Allowing for the distortion of Mercator's projection, you can see that that is approximately the same distance as from Scapa to Cape Farewell. And so he felt that if the British Fleet had still been at Scapa at noon, there was a very good chance of his being able to get to Cape Farewell without being intercepted. He began to toy with the idea of a direct break-through instead of following out his original intention of oiling up in 70° N.

Viewing his problem now, with all the advantage of hind-sight, it is, I feel, clear that he would have been wiser to have dwelt a pause and remained hidden for a week or so in some northern Norwegian fiord and then to have made a dash for it. The British ships, faced with the problem of oil fuel, would have been unable to remain

on patrol indefinitely. Then, when he learned that during the evening of 22nd May a British aircraft had flown round Korsfiord and must have reported his departure, he should surely have seen the danger signal. However, encouraged by the fact that the visibility had dropped to about 400 yards and, furthermore, that his meteorological experts forecast that it would be thick in the Denmark Straits, he decided to take the plunge.

In the Denmark Straits

Actually, the visibility in the Straits was patchy—quite clear near the ice but eastward of that there were snow and rain clouds with patches of mist. The fog had forced all our aircraft to remain grounded, and so, as in olden times, we relied for our patrols on ships. The *Suffolk* was stationed at radar distance from the ice. Fifteen miles East of her was the *Norfolk*, and then came the minefield. At 20 minutes past eight the Germans sighted a three-funnelled cruiser. It was the *Norfolk*. They opened fire but she got away behind smoke. A little later they detected a second cruiser, and appreciated that the two cruisers were shadowing on the quarters.

Now the Germans had been completely confident that by bursts of high speed, sharp alterations of course, and the use of smoke they would have no difficulty in shaking off shadowers, and so it was to their amazement and their disgust that they found every alteration of course was quickly and accurately reported. They had no idea that we had ship-radar. They had radar themselves. They used it mainly for gunnery purposes. They called it " range-finder-two."

In January, when the *Scharnhorst* and *Gneisenau* made their initial attempt to break out, they had encountered the van of the Home Fleet. That night, on board our leading ship, the *Naiad*, the radar was not working. This fact may account for the German assumption that our ships were not fitted with the gear. However, Admiral Lütjens now realized that our possession of efficient long range radar was of great significance, not only to this present operation but to the whole conduct of the war at sea.

Captain Brinckmann, of the *Prinz Eugen*, seems to have been less astute. He wrote a very long report, describing the wonderful way in which the British ships were able to shadow the Germans by taking cross-bearings with hydrophones. Actually, his own hydrophone seems to have been a remarkable instrument. He claims that, even when steaming at high speed, he was able to get results to an accuracy of one degree at a range of 16 miles.

One one occasion the two British cruisers opened fire on the *Prinz Eugen* at long range. In order to protect her from a chance lucky hit, she was ordered to take station 1½ miles ahead of the *Bismarck*. Incidentally, that manœuvre very nearly resulted in a debâcle, for just as she got abreast of the *Bismarck*, the latter's helm jammed and the two ships very nearly had a collision.

They held their southerly course, hugging as close as they dared to the ice. The *Prinz Eugen* on one occasion got a bit too close. In those latitudes, in May, it never gets properly dark at night, and as the half-light paled to dawn, radio intelligence reported that there were wireless indications of two other British ships to the eastward, and at a quarter to six they sighted two plumes of black smoke, close together, rising vertically upwards. These came from the *Hood* and the *Prince of Wales*, but as the British ships were approaching end on, they were not at first identified. They were taken for smaller ships, cruisers or possibly destroyers, and the *Prinz Eugen* in fact loaded with high explosive shell.

Action with H.M.S. *Hood* and *Prince of Wales*

The British opened fire first. As they were steaming straight towards the enemy, they were able only to use their foremost guns. The *Hood* took the *Prinz Eugen* for her target and the *Prince of Wales* opened fire on the *Bismarck*. The Germans were able to bring all their guns to bear but they were theoretically the easier target. On the other hand, the Germans had the advantage of the weather gauge. The British ships, steaming at high speed, with the wind on their bow, found that the spray covered the windows of their rangefinders, and the *Prince of Wales* opened fire with a guessed range. What the *Hood* used we do not know. Both German ships opened fire on the *Hood*. This fact is of considerable interest. There have been a number of rather harsh criticisms of our tactics in this action, but the only comment made by Lord Tovey is that he thinks the *Prince of Wales* should have led our line. She was by far the better protected ship, and there is that well-known tendency always to fire at the leading ship in an enemy's line.

The second salvo of the *Prinz Eugen* scored a hit which started a fire on the after part of the *Hood's* boat deck. The *Prinz Eugen* was then ordered to shift her fire to the *Prince of Wales*, because her splashes were causing interference with the *Bismarck's* spotting. Some three to four minutes later, just when our two ships were altering course together to bring all their guns to bear, the *Bismarck* scored a hit which must have penetrated to " X " magazine. With a most tremendous explosion and a huge cloud of smoke and debris the great ship was torn asunder. The Germans saw the bow and stern rise high out of the water, remain poised for a moment, and then sink together below. The Germans then brought every gun to bear on the *Prince of Wales* and, although spotting was difficult as she passed through the smoke made by the explosion of the *Hood*, they scored several hits and saw their target make artificial funnel smoke, turn away, and join the shadowing cruisers.

The German Naval Staff, commenting on this action, say that the *Prinz Eugen* was lucky not to have been hit by one of the many shells from the *Hood* which fell close to her. According to their tactical rules, she—being lightly armoured—should, when finding herself engaged with heavy ships, have retired to what they call the 'lee of the fire.' It was only because she thought she was about to fight small ships that she had remained in the line. But, they say, her remaining in the line was on this occasion justified by the results, for it forced the British ships to spread their fire. One wonders whether it really did force the British ships to spread their fire. Admiral Holland had, with much care, manœuvred his two ships on to a line of bearing at right angles to the bearing of the enemy. There is also other evidence that he intended concentration, despite the fact that one of his ships was very newly worked up and neither had had any opportunity for exercising concentration procedure. There may have been some error in target indication, due to the similarity of silhouettes or to the expectation of finding the *Bismarck* in the van.

Damage and Difficulties

The *Prince of Wales* had scored hits with her 6th, 9th, and 13th salvoes. One of these had done only superficial damage. One had penetrated the armour and entered a boiler room where it started some flooding and knocked out a dynamo. The third had passed right through the ship, forward, before the armour belt, holing at least two oil fuel tanks. The oil from these tanks was, of course, lost ; but also the oil from the tanks further forward still could not now be drawn upon as the suction valves were inaccessible in a flooded compartment. A thousand tons of oil

was thus lost to her. She trimmed slightly down by the bow, lost two knots in speed, and started to leave an oil trace which was observed by a Sunderland flying-boat which had come from Iceland.

The knowledge that he could be and was being effectively shadowed must have done much to detract from Admiral Lütjen's natural satisfaction in having sunk the *Hood*. Furthermore, as the day wore on, his radio intelligence and direction-finding services gave a pretty good indication of the net that was now being drawn round him. The flag captain wanted to turn back but, for reasons we shall never know, Admiral Lütjens elected to hold on. It may be that he hoped that by getting into more southerly latitudes where there would be longer hours of darkness, he might elude his shadowers. The German Admiralty attribute his decision to a dogged maintenance of aim. My own view is this. He had been told that all four British ships were at Scapa at noon on the 22nd, and yet at dawn on the 24th he found two of them in the Denmark Straits. Might not the rest of the Fleet have sailed at the same time and shaped a course northward of Iceland, with the idea of cutting him off?

To add to his embarrassment, he was finding a certain amount of difficulty with his wireless, possibly due to being in the proximity of the magnetic North pole. (The *Suffolk*, the evening before, had had similar difficulty when making her initial sighting report.) But it took him some seven hours to get a report through to Germany saying that he intended to leave the *Prinz Eugen* to carry out raider warfare on her own, while the *Bismarck* shaped a course for St. Nazaire. He also made a signal to some U-boats under his operational orders to take up a position through which he meant to lead his shadowers. Then something occurred to make him change his mind, and at 1956 hours he made to Group West: "Impossible to shake off shadowing units on account of enemy radar. Steering course directly for St. Nazaire because of fuel."

He had given up the idea of leading his shadowers over the U-boats and was now going to make straight for France. Here, too, for the first time, we see a mention of shortage of fuel. The figure of 1,000 tons which I gave just now was obtained from survivors picked up just after the action. A study of the figures giving her consumption at different speeds and the capacity of her tanks shows, according to my calculations, that if he were really short of oil he must have lost not 1,000 but 2,000 tons. I have a theory that just after the battle he thought he had lost 1,000 tons, but something happened during that afternoon to show him that the second thousand was missing. It may have been that hit in the boiler room, which was half surrounded with fuel tanks.

THE *Prinz Eugen*

In the meantime, he had parted company with the *Prinz Eugen*. That afternoon he made her this signal: "1320 *Prinz Eugen*, *Bismarck*, from C.-in-C., Fleet. Intend to shake off shadowers as follows. During rain showers *Bismarck* will make off on a westerly course. *Prinz Eugen* is to maintain course and speed until she is either driven off or until three hours after *Bismarck's* departure. She is then detached to oil from *Belchen* or *Lothringen* and afterwards to carry on cruiser warfare independently. Execute on code-word '*Hood*'." (The two oilers mentioned are the two South-West of Greenland.)

The signal is ambiguously worded. It is not clear as to whether the *Bismarck* is to lead the shadowers away from the *Prinz Eugen* or the *Prinz Eugen* is to lead them away from the *Bismarck*. Captain Brinckmann certainly was not sure which

was intended, and anyway he heartily disliked the idea of going North. He had had enough of being shadowed and he drafted a long signal by way of argument, but just as he was going to pass it there was a warning of air attack—it was probably one of the shadowing flying-boats—and as soon as that was over the *Bismarck* made the executive signal '*Hood*,' turned off to starboard, and disappeared in a cloud of rain. Brinckmann found himself in a quandary. In his diary he has written pages describing his dilemma. The idea of going North certainly gave him a foretaste of that lonely feeling, whereas to go South meant stretching his oil to the absolute limits. However, he elected to go South, although this meant disobeying his Commander-in-Chief. He only just reached his oiler. He filled up and then went on to another oiler. He then intended to lie 'doggo' for a while until the hue and cry had subsided and until the two reconnaissance ships could come down to help him hunt for merchant shipping.

But he now received a disquieting report from his engineer officer. The starboard propeller had been damaged against the ice, and both the other main engines required repairs after so much high speed steaming. The last supply of oil they had embarked had water in it and the feed water was contaminated. After much cogitation, described in detail in his diary, there came a report from an Italian submarine, to the North-East of him, of five battleships steering South-West. He decided that discretion was the better part of valour, shaped a course for France, and so goes out of our story.

Air attack from H.M.S. *Victorious*

We left the *Bismarck* turning off into a cloud of rain. She rapidly closed the *Suffolk*. There ensued some gunfire in which the *Prince of Wales* joined, but it was ineffective on either side. Admiral Wake-Walker, in the *Norfolk*, at that time was proposing to bring his three ships in from astern, with the idea of leading the *Bismarck* off to the eastward so as to accelerate interception by the Commander-in-Chief. Unfortunately, the moment he selected for the manœuvre coincided with that of the Germans parting company, with the result that the enemy steered even more to the West, instead of to the East, as had been hoped.

The next incident was an attack by the aircraft of the *Victorious*. She had been detached by the Commander-in-Chief that afternoon. You will perhaps remember that her aircraft, owing to a stroke of very bad luck, broke their cloud cover much too soon, and these inexperienced but most gallant young airmen had to fly in to attack in full view of the *Bismarck* for five miles. The *Bismarck* blazed away with every gun she possessed, including her main armament, and believe me, the *Bismarck* could put up the most astonishing amount of 'flak.' There were nine Swordfish in that attack. The ship's company of the *Bismarck* were told that they had shot down 27. Actually they shot down none. One torpedo hit. It sent up a column of water as high as the mast, and from the funnel there was a puff of black smoke, betokening a fall of soot which results when an explosion occurs. The ship was shaken violently. One man, being hurled against a bulkhead, died of a fractured skull. Three others had broken legs. But that torpedo did no structural damage to the ship whatsoever. Survivors described it as having "rebounded." However, by firing those big guns of hers, she did shift the shores that had been placed against the bulkhead of the damaged boiler room, and the compartment flooded up and had to be abandoned. Furthermore, by going on to her best speed and using full rudder to dodge the torpedoes, she had shifted the collision mats with which they had attempted to caulk the leaks forward. She had to ease down while these were replaced.

She made one more attempt, at dusk, to shake off her shadowers, and there was another exchange of long-range shots with the *Prince of Wales*. Then came three hours of darkness. We know that it was just as darkness fell that our ships lost contact—the flying-boats had lost contact some ten hours before. There is nothing to show that the Germans took any particular avoiding action at that time, and it is clear that they did not know that we had lost contact. In fact, they believed we were still shadowing well on into the next forenoon. But with the coming of dawn not one of our ships was in touch with the enemy, and our Commander-in-Chief was faced with the problem of search.

The *Bismarck* Lost

The diagram gives a somewhat deceptive idea of the extent of the problem. The thickness of the black line marking the enemy's track represents some ten miles of water. The enemy might have turned to any point of the compass. The Commander-in-Chief had not enough ships with which to search in all directions. He felt that she would probably make for harbour, and in making that appreciation one must realize that, although the only indication he had that she had been damaged by the guns of the *Prince of Wales* was the report that she was leaving an oil trace, yet he did believe her to have been damaged by the torpedo of the *Victorious*. However, what, he felt, would create a far more serious situation would be if she had slipped her shadowers and moved westwards to an oiler and, having taken in oil, would be able to outsteam the *King George V*, who would be getting low in oil herself by that time. So he decided to act on the assumption that she had gone westward. Thus it was that the *Victorious* with four cruisers, who had been about to do a combined air and surface search to the South-East of the enemy's last known position (and a search down to the South-East would probably have found her), were told to search the North-West.

The *Norfolk* and *Suffolk* were already searching to the westward. The *Repulse*, who had been with the Commander-in-Chief but was now getting low in oil and had already passed the line of no return, was steering westward to St. John's. The C.-in-C. himself, in the *King George V*, was steering to the South-West, and the *Prince of Wales* was trying to join him.

Admiral Lütjens that day had the honour of receiving a personal signal from Hitler wishing him many happy returns of the day! He decided to address the ship's company, but that speech of his seems to have done very little to raise morale. One survivor—a man picked up by a U-boat and taken back to Germany—reported that, as a result of the speech, "the mood of the ship's company became grave." Amongst other things, Lütjens said that the best to be hoped for was that the *Bismarck*, fighting to the last, might be able to take one or two of her opponents to the bottom with her. The afternoon they rigged a dummy funnel. What intention lay behind that evolution history does not relate, but it seems to have revived the spirits of the ship's company. Anyway, next morning it was down again.

The D.F. Bearings

Admiral Lütjens also made injudicious use of his wireless. He made one report saying that they were still being shadowed, and a long signal, which took half-an-hour to pass, giving an account of his battle with the *Hood*. These signals were made on high frequency which in those days could not be d.f'd. by our ships at sea, though they could be by our shore stations. However, the ranges were long and the cuts were

poor. Furthermore, to make matters worse, on board the *King George V* a plotting error was made, and the picture as shown to the C.-in-C. showed the enemy some 80 miles too far to the North,[2] which persuaded him that she was making for one of the gaps either side of the Faroes, and so he steered North-East. The Admiralty then made a series of signals which showed that they thought the enemy was making for France. One was a signal saying that a ship believed to be the *Bismarck* was transmitting within 50 miles of the position D on the diagram. I do not think that signal was made by the *Bismarck*. It was made on submarine wave-length. No signals were received in Germany from the *Bismarck* at that time, whereas a signal reporting the *Suffolk* was received at just that time from one of the six U-boats.

By six o'clock that evening every available British ship was ordered to act upon the assumption that the enemy was making for France. The chase that now ensued was a forlorn hope. Our ships were 100 miles astern of the enemy, and many of them were getting low in oil.

From eleven o'clock that forenoon of the 25th the *Bismarck* kept wireless silence. It seems Admiral Lütjens at last realized he was no longer being shadowed. If that were the case, and if he were really short of oil, one does rather wonder why, instead of making for Brest, he did not make for an oiler which was so very much closer. This does serve to illustrate the well known lesson of the utter abhorrence a raider feels at the idea of being caught out on the high seas in a damaged condition.

But shortly after midnight the die was cast, for he began to grow closer to Brest than to the oiler. At that hour of midnight, it is not uninteresting to note, some 80 miles ahead of the *Bismarck*, crossing her course at right angles, was a convoy of liners loaded with soldiers bound for Egypt via the Cape, and protected only by a cruiser and a few destroyers.

THE *Bismarck* RE-FOUND

The next day was the day of the airmen. Force " H " had come up from Gibraltar. The area of search by the *Ark Royal's* Swordfish is shown on the diagram. They were to fly over it in the forenoon to cover the enemy's higher speeds, again in the afternoon to cover his intermediate speeds, and, if necessary, a third time to cover his lower speeds. Also shown on the diagram are two cross-over patrols flown by Catalinas from Loch Erne.

At 1026 hours, to the Royal Air Force went the honour of refinding the enemy. The Germans were amazed to find our shore-based aircraft so far West. However, that Catalina, coming in suddenly through a cloud at short range, got shot up and badly holed, and was unable to shadow. Fortunately, 12 minutes later, up came the first of the *Ark Royal's* Swordfish and took over the shadowing.

The whole situation was completely changed. The *Bismarck* broke wireless silence, reported her position and the fact that she was being shadowed, and added: " Oil fuel situation serious. When may more supplies be expected? " But there was little that Group West could do to help. The *Scharnhorst* and *Gneisenau* were still in dockyard hands, and the destroyers at St. Nazaire could not put to sea as a gale from the North-West had blown up, which prevented them from crossing the harbour bar.

Eight submarines were ordered to the area. One was damaged and two had no torpedoes. Reichsmarshal Goering promised the full support of the *Luftwaffe*. But,

[2]Position C on the diagram.

in fact, hardly any sorties were flown until the whole sorry affair was fully over. They thought of sending an oiler, but in any case it would have been several hours before it could reach the *Bismarck*.

However, on board the ship they thought it advisable to encourage the crew with the promise of help to come. Swarms of U-boats and great squadrons of German bombers were expected hourly. It must have been a day of tense and anxious waiting. Many of them had been at action stations for a very long time. The sky was heavy with clouds, under cover of which British airmen might be expected to make their approach unseen. Atlantic rollers, whipped up by that North-westerly gale, were causing considerable movement on the ship. This, together with the spray, threatened to impair the efficiency of their guns.

Air Attack from H.M.S. *Ark Royal*

They were kept waiting a long time. It was not until just before eight o'clock that the suspense was broken and 15 Swordfish from the *Ark Royal* came in to attack. But the clouds were considerably thicker than our airmen could desire. The *Bismarck* was steaming under a cold front and there were dense clouds from 700 up to 10,000 feet, where icing on the wings occurred, so that a co-ordinated attack was impossible, and they attacked in threes or twos or even singly. From the time of the first attack to the last, a good half-hour elapsed. The guns of the *Bismarck*, of course, fired furiously, though this time they did not use their main armament. And the fire was accurate, as at least one Swordfish can testify. When she got back to the *Ark Royal* they counted 175 holes in her. The gunfire forced two Swordfish to jettison their torpedoes. Of the other 13 torpedoes, the *Bismarck* succeeded in avoiding 11. Two scored hits, and one was exactly what we wanted—a hit on the rudders. The ship turned two circles and eased down to eight knots. She tried to steer with her main engines, but could only steer into the wind. However, her gunfire was still 100 per cent. efficient. On one occasion, she was able to open her " A " arcs on the *Sheffield*, who could be seen shadowing on the horizon. The salvoes fell close, splinters came inboard, causing casualties and knocking out the radar, so that the *Sheffield* was unable to shadow that night. However, the Swordfish were able to shadow right up to sunset, but then they had to go back to the *Ark Royal*.

The 4th Destroyer Flotilla

At that moment the *Bismarck* sighted five destroyers spread in line abreast and approaching from the westward. They were the destroyers that had been with the troop convoy. Fire was immediately opened on the northernmost one—a Polish destroyer, the *Piorun*. The others were Tribals of the Fourth Flotilla. Captain D (4) made the signal group for " Shadow and attack as opportunity offers," and the four Tribals all made for the dark part of the horizon to the South-East. But the *Piorun*, with outstanding gallantry, remained for a full hour to the North-West with the after-glow behind her, and there she carried out diversions in the hope that her flotilla-mates might be able to get in their attacks. She was under almost continuous fire from main and secondary armament.

Aboard the *Bismarck* the situation must now have been ominous indeed. They were expecting another air attack at dawn, but H.A. ammunition was almost expended. The Iron Cross was offered to anyone who would free the rudders. A diver did go down to the flooded steering compartment and succeeded in getting one rudder amidships, but he could do nothing with the other, and the ship remained unman-

œuvrable. An exchange of heroics between Admiral Lütjens and Hitler resulted in nothing but a feeling of nausea amongst the disillusioned few who were allowed to see those signals. The ship was rolling heavily and uncomfortably. The men were very tired. There were instances that night of men falling asleep at the guns between salvoes. Now they were to be harassed all night by those destroyers. But they rallied, those men, and fought on gallantly. Despite the fatigue, the gun-fire was often most unpleasantly accurate. The captain of one of the destroyers, in describing his adventures afterwards, gave some rather nice advice. "When," he said, "you saw these 15-inch gun flashes in the darkness, if they appeared to you triangular or conical in shape, it was all right. They were firing at someone else. But if they were round, then 'full ahead and hard-a-starboard'." These destroyers were all commanded by experienced officers and they have put in very convincing claims for three torpedo hits; but no survivor admitted that any torpedo hits were obtained that night. On the other hand, the *Bismarck's* ship's broadcast would make such wishful announcements as: "Another destroyer hit—burning—sinking."

Action with H.M.S. *King George V* and *Rodney*

There came the last dawn. At a quarter to nine they saw two battleships steering straight for them. Fire was at once opened. The *Bismarck* chose the *Rodney* for her target and at least one salvo fell very close indeed.

But this was not to last. The *Bismarck* had been built on a principle usually adopted in the German Navy and well illustrated by an utterance of Grand Admiral von Tirpitz. "A battleship," he once said, "has three functions. Firstly, it must float; secondly, it must float; and thirdly, it must go on floating." The most elaborate measures had been incorporated in her design for the defence of her hull, but her upper works in comparison had been left quite lightly protected.

Soon a hit was obtained on her main gun control position, which was knocked out. Then, as our ships closed in further, one by one the *Bismarck's* turrets were silenced. Our ships continued to close in, pumping shell after shell into her, but still she would not sink. Over the scene on board during that awful time it is perhaps as well to draw something of a veil. In one of the magazines the crew became trapped. The rescue party were unable to open the escape hatch owing to distortion of the deck. In the compartment above a fire was raging, causing the temperature to rise to a dangerous level. In the end, the order was given to flood the magazine with the men still inside. From the upper deck men were jumping overboard, preferring the chilly hospitality of that stormy sea to the raging inferno that blazed on board. Wounded men were being washed overboard by the waves that were now breaking over her.

In the end, the *Dorsetshire* steamed up, fired two torpedoes into the starboard side, steamed round the bow and fired another into the port side. And so, at last, down she went with her ensign still flying.

DISCUSSION

Lieutenant-Commander D. G. Roome, R.N.: Is it known if any radar countermeasures were used by the *Bismarck* or the *Prinz Eugen* in the action against the *Hood* and the *Prince of Wales?* We thought at the time that they were using them against our gunnery radar.

The Lecturer: I do not think they thought we had radar. They did suspect that we had a search receiver and were able to detect their radar. But they had no idea that there was radar in our ships.

MR. D. G. BROWNE : When the *Hood* was sunk, did the German Admiral realize it was the *Hood* or did he still think it was a small ship ?

THE LECTURER : By the time she was sunk he realized it was the *Hood*. When the ship turned to port they saw the bow. They recognized the particular silhouette of her bow.

CAPTAIN D. GILMOUR, R.N. : Do you happen to know what the *Bismarck* and the *Prinz Eugen* were going to do if this had not taken place ? Were they going to work in the Atlantic ? They had all their ships there ready to help them. Were they going to work there or to go farther afield ?

THE LECTURER : They were very definitely going to work in the Atlantic. They had two more ships farther South but they were going to operate in the northern half of the Atlantic.

The original programme was for the *Gneisenau* to create a diversion to the South, and then join the *Bismarck* so that the combined force could take on anything we could put up in the area.

CAPTAIN A. R. FARQUHAR, R.N. : Is it quite clear whether, in the original action between the *Hood*, the *Prince of Wales*, and the *Bismarck*, that the *Bismarck* was under fire *before* the *Hood* was sunk ?

THE LECTURER : The *Bismarck* was certainly under fire from the *Prince of Wales* before the *Hood* was sunk. The *Prince of Wales* opened fire 15 seconds after the *Hood*. I think the original idea was that they should fire every 15 seconds, and they took their time from the firing of the first gun.

COMMANDER F. S. WALFORD, R.N. : You said that after the torpedo from the *Victorious* hit, a collision mat had to be replaced. Can you tell us at what speed this had been placed, and whether it was like our old conception of a collision mat ?

THE LECTURER : I must have been misunderstood. They did not place collision mats in quite the way we do. I think they merely used collision mats to caulk a leak. They plugged the hole. These got washed away and had to be replaced. They did come down to about 12 knots to replace this gear.

LIEUTENANT (A) B. WISEBERG, R.N.V.R. : You mentioned that one of the U-boats made a sighting report on the *Sheffield*. Were any U-boats brought to action ?

THE LECTURER : It was the *Suffolk* which was searching, and one of the U-boats reported her as a destroyer. There were no destroyers there, however, and because the *Suffolk* was in those waters about that time I feel pretty sure it was she. The U-boats were not brought to action. The *Suffolk* never saw them. As far as I know, no U-boats were brought to action at all at that time.

COMMANDER L. E. PATON-JONES, R.N. : Could you tell us how the co-ordination of the air searches was achieved ? Presumably those carried out by Coastal Command were ordered from the United Kingdom, and the C.-in-C. afloat was informed of them and had then to fit in those carried out by the Fleet Air Arm.

THE LECTURER : The search by the *Ark Royal's* aircraft was ordered by Admiral Somerville. It was entirely at his discretion where the search would be. He was a little later than he meant to be. He had eased down to try to keep his destroyers with him in the face of the gale but gave that up and got up speed again. He was about two hours later than he had originally intended.

THE CHAIRMAN : The *Bismarck* episode was of great importance and in planning the sea and air operations the Admiralty and Coastal Command worked closely together. The actual orders for the search, in which one of the three Catalinas taking part found the battleship after she had been missing for 30 hours, were sent out from Coastal Command Headquarters. Other searches, by Sunderlands and Hudsons based in Iceland, were arranged in the normal manner by 15 Group Headquarters at Liverpool.

COMMANDER R. M. FAVELL, R.N.: Could you say how the C.-in-C. eventually decided the *Bismarck* was going South-East to France, as opposed to back to the North? Or did he just take his information from signals he got from the Admiralty? Was he able to deduce it himself or was it deduced in London?

THE LECTURER: The Admiralty were making appreciations very frequently and quite early that forenoon they came to the conclusion that it was France. As soon as they had plotted the bearings of those wireless signals at about ten o'clock, they came to that conclusion. But, of course, the C.-in-C. had been shown the wrong picture and that made him think it was the northern route that was intended. But after he got the various signals from the Admiralty, by about one o'clock, he accepted the Admiralty view and he cast to starboard[3] with the idea of making for France. But at about that time a certain Very Important Person in the War Room at the Admiralty became very anxious about the Faroes–Iceland gap and to meet his views the Admiralty ordered the *Rodney* to act, not upon the assumption that the *Bismarck* was making for France, but on the assumption that she was making for a Faroes gap. As a matter of fact, it made no difference to the movements of the *Rodney*: she was already steering North-East to search out the water between the circle round Position D and France; but the signal to the *Rodney* confused the C.-in-C., and he cast back again to port[4] for some hours. It was not until six o'clock in the evening that he finally accepted the assumption that she was making for France.

LIEUTENANT-COLONEL H. FOOKS: Was any attempt made to find out where the *Prinz Eugen* was on 27th May?

THE LECTURER: The Admiralty were very anxious, but there was very little that our ships could do, because they were all out of oil. The *Norfolk*, although oiled during the night of 22nd May, had come a long way. She eventually got into Londonderry with only 4½ per cent. remaining. She just crept in. The *King George V* was pretty low too. Several destroyers were very shaky and one was unable to keep up the fleet speed of 20 knots going along the Irish coast. She was sunk by bombers. That was all the German bombers did achieve.

But there was a small force of destroyers who were being kept in hand. They had been the *King George V's* screen on the 23rd and 24th. They had gone to Iceland to refuel and had then been moved down to Londonderry on the 25th when it was found that the battle was trending southwards. They were kept in Londonderry in case there was news of the *Prinz Eugen*, but there was no news.

LIEUTENANT-COLONEL H. FOOKS: No possibility of anything coming up from Gibraltar like Force "H"?

THE LECTURER: Force "H" was already at sea. There was only one flotilla of destroyers in Force "H." It is of little use to send ships out on a search into the Atlantic with no information whatsoever.

LIEUTENANT-COLONEL H. FOOKS: They had absolutely no information?

THE LECTURER: Absolutely none.

LIEUTENANT-COLONEL H. FOOKS: She did not make any wireless signals or anything of that sort?

THE LECTURER: They had no indication whatsoever, but of course what is interesting is that on about 28th May an oiler fell to one of our patrolling armed merchant vessels. Something went wrong with the scuttling drill, and that ship was seized and brought into Greenock. There, on board, was found a piece of paper which gave the positions of all

[3]Position E on diagram.

[4]Position F on diagram.

the supply ships, and within about ten days we had all except one in the bag. But there was no mention of the *Prinz Eugen* on that paper.

LIEUTENANT-COLONEL H. FOOKS: One other question—what was the position of the troop convoy about the time that the *Bismarck* was sunk?

THE LECTURER: It was going South across the track of the *Bismarck*.

LIEUTENANT-COLONEL H. FOOKS: Well within the battle area?

THE LECTURER: Yes, but it had sailed from Greenock on the 22nd, when the *Bismarck* was up North.

LIEUTENANT-COLONEL R. G. LYTTELTON: We had a lecture about the operations in the Pacific. Have we now anything which would enable our ships not to have to go back to refuel if they were engaged in such an operation as this again?

THE LECTURER: Yes, we have.

FLIGHT-LIEUTENANT E. E. GERVASE-DAVIES: Did the German Admiralty suggest action to Admiral Lütjens or did he decide for himself?

THE LECTURER: The course of action? Once the German Admiral was at sea he had complete freedom of manœuvre and everything was left to his discretion and decision. But before he sailed the German Admiralty were very much involved in the planning of the operation.

LIEUTENANT H. S. BENNETT, R.N.: There seems to have been a certain amount of dual control between the C.-in-C. and the Admiralty. As a result of this operation were any plans made that if another heavy unit broke into the Atlantic, the role of the Commander-in-Chief would be reduced merely to that of Commander of the ships actually in company with him, or alternatively would he stay behind and co-ordinate all movements in the whole of the area?

THE LECTURER: I take your point. Admiral Tovey felt that the dual control of this action had worked with very great efficiency indeed, and he was fully satisfied. In his report, he expresses very great gratitude for the way the Admiralty had put ships at his disposal. They sent the *Repulse*, who had been going to act as escort to the troop convoy, and the *Victorious*, who was not really part of the Home Fleet. The Admiralty had also passed out reliable information which was of great value. They had given orders to the *Ramillies*, who was with a homeward-bound convoy, and told her to go West of the enemy. The *Rodney* was told to do the right thing at the right time. And, Sir John Tovey said, the Admiralty signals to these ships completed his own dispositions in a manner which enabled him to keep wireless silence, which otherwise he would not have been able to do. I should say this is one of the few classic examples of successful dual control. There must be very few but this is one of them.

COLONEL H. F. SMITH: The German naval constructors made considerable claims at the fact that it required 300 hits to disable the *Bismarck* and then she was ultimately disposed of by torpedo. How far do you think we are under-subdivided and they perhaps over-subdivided in protective hull design and construction?

THE LECTURER: That is a somewhat technical question. In answering it, I would emphasize that it is very much my opinion that I am going to express. For one thing, one must remember that it was not entirely due to subdivision. The *Prince of Wales*, a *King George V* class of ship, had much the same speed and much the same weight of broadside as the *Bismarck*. They both had 30 knots, and one had eight 15-in. and the other ten 14-in. guns. The *King George V* class of ship was built under the Washington Treaty which limited her to 35,000 tons. The *Bismarck* was apparently not limited at all, and was somewhere around 45,000 tons. Practically all that additional 10,000 tons was put into making the ship virtually unsinkable. I think that is really the difference between the two, and there is also the point that I mentioned—that we consider our superstructures. Our Admiralty are of the opinion that a floating hulk is not much use.

The ship must fight, and therefore you have to protect her upper works as well as the hull. It is a matter of opinion.

COLONEL H. F. SMITH: Have you any idea of the number of hits scored on the hull of the *Bismarck*?

THE LECTURER: It must be a matter of pure conjecture. One knows how many rounds were fired, but they were using armour-piercing shells, which go right into the ship. You do not see them burst. There is no means of knowing how many hits were obtained.

COLONEL H. F. SMITH: The Germans reported that three hits sunk the *Hood* and 300 failed to sink the *Bismarck*.

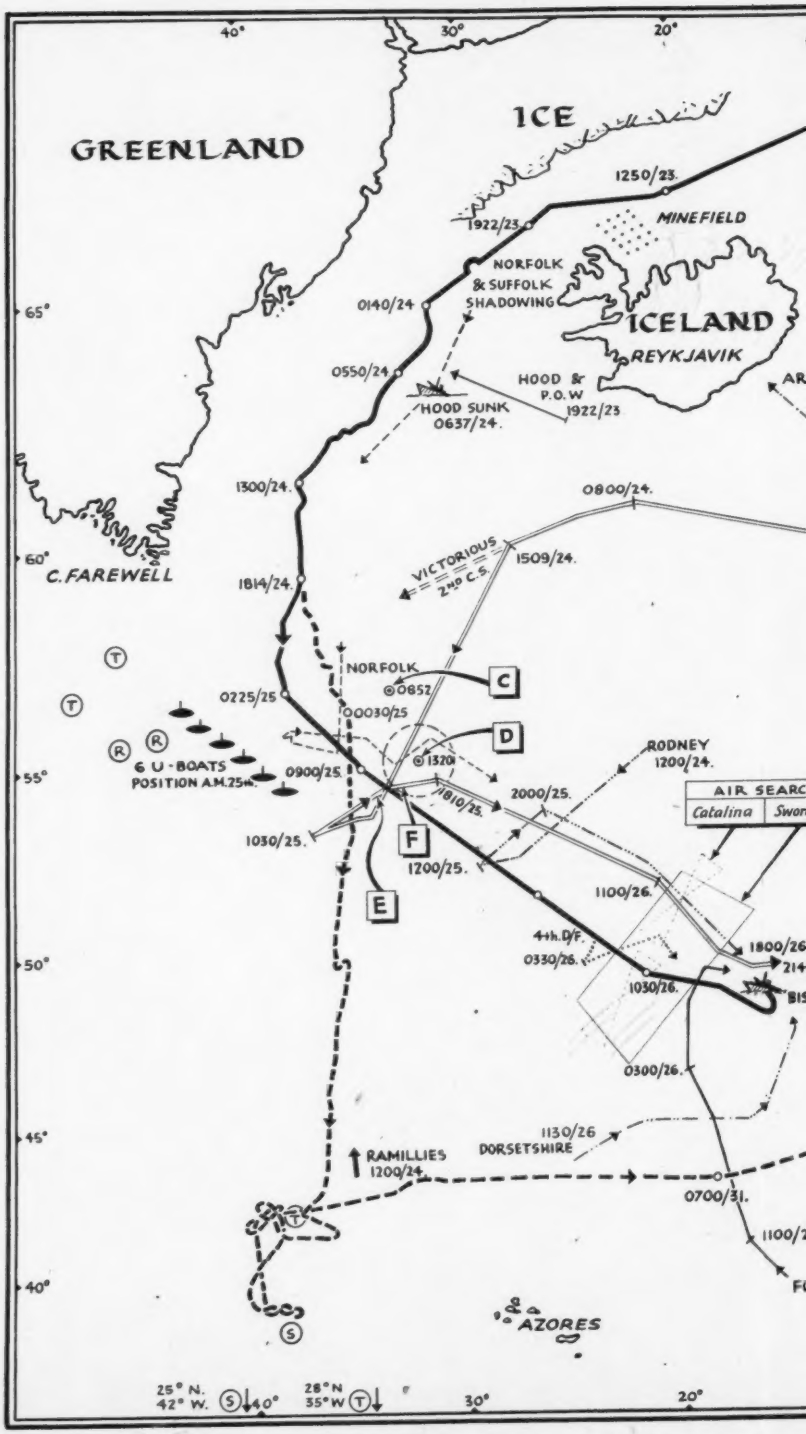
THE LECTURER: There again: the *Hood* joined the fleet in 1920. She was a veteran by 1941. In her day she was considered a masterpiece of naval construction. She was the first warship in the world that could steam at 30 knots and also carry eight 15-in. guns. But in those ensuing 20 years enormous strides had been made in the science of marine engineering. We are now able to produce an equivalent amount of horse-power with far less weight of machinery.

It is grossly unfair to compare the two ships. It is like trying to compare the army tanks in the two World Wars. There is a lot of difference in 20 years.

THE CHAIRMAN: We have heard a great deal about courage, fortitude, and tragedy, which applies to both sides. Personally, I have learned a lot about the episode, and one of the most interesting factors which has come out is this question of refuelling at sea in war. We know there is a present-day answer, but at that time there was dependence on tankers. And does it not seem a little odd to us who had to depend on the freedom of the sea in the Atlantic, to get our stores and our supplies through, that we were unable to put tankers out there because of U-boats, whereas Germany could, as you have heard, put this surprising number of tankers out.

The other point that has been discussed with interest is the floating character of the *Bismarck*. And what a grave mistake they made in designing a hull like that which apparently would hardly sink! It meant that the vast majority of the crew lost their lives. As you well know, comparatively few were picked up in the short time available. A few more were picked up by German ships, but very few indeed.

You will all join with me in thanking Commander Jessel for his most interesting lecture this afternoon. I ask you to join with me in giving him really hearty thanks. (*Applause.*)


GREENLAND
ICE
ICELAND
REYKJAVIK
MINEFIELD
1250/23.
1922/23.
NORFOLK & SUFFOLK SHADOWING
0140/24
0550/24
HOOD & P.O.W 1922/23
HOOD SUNK 0637/24.
1300/24.
0800/24.
1509/24.
VICTORIOUS 2ND C.S.
1814/24.
C. FAREWELL
NORFOLK
0852
0225/25
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1320
6 U-BOATS POSITION A.M. 25th.
0900/25.
1810/25.
2000/25.
RODNEY 1200/24.
AIR SEARC
Catalina
Swor
1030/25.
1200/25.
1100/26.
4th. D/F.
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1130/26 DORSETSHIRE
RAMILLIES 1209/24
0700/31.
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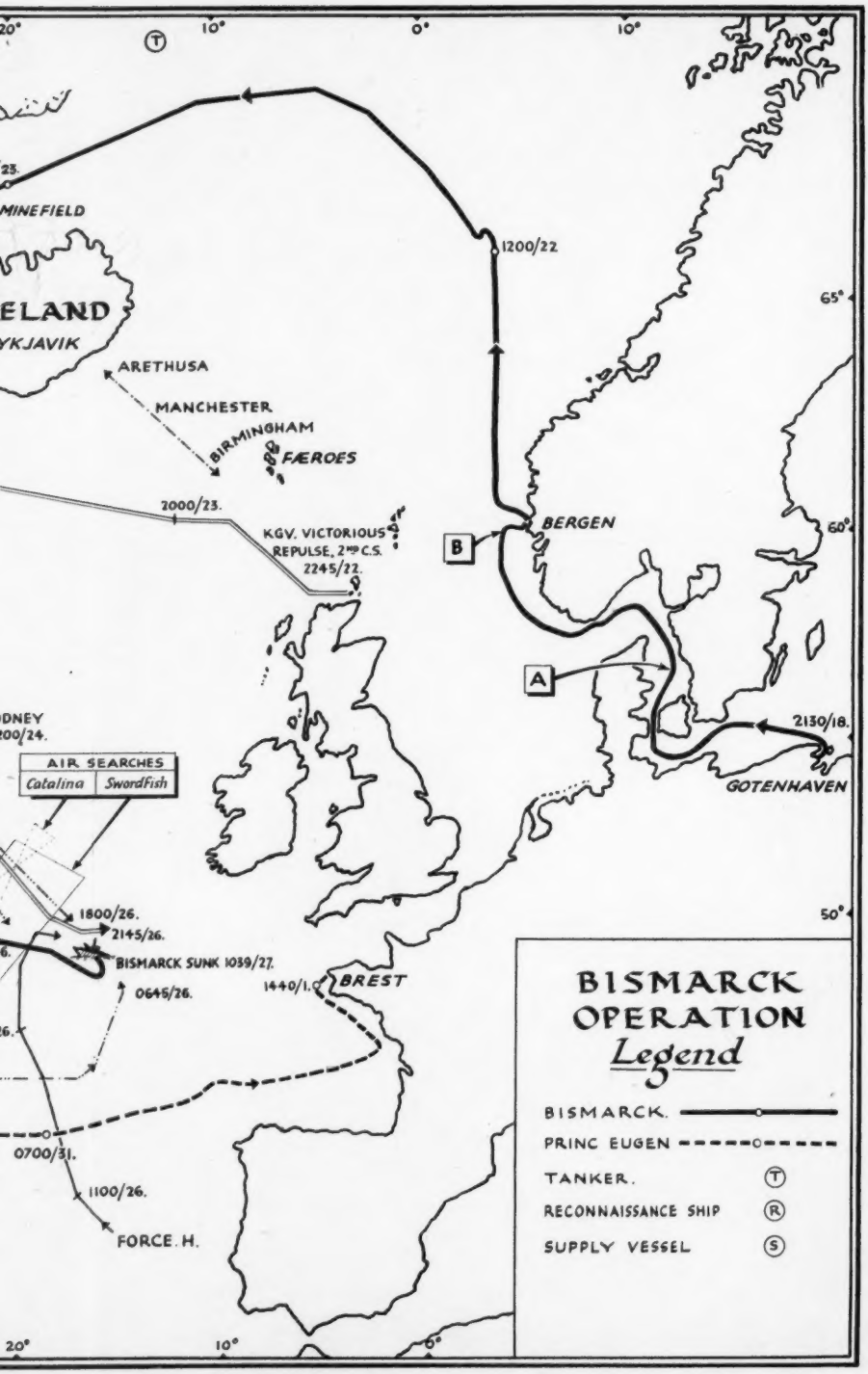
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A
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GOTENHAVEN
AIR SEARCHES
Catalina
SwordFish
1800/26.
2145/26.
BISMARCK SUNK 1039/27.
0645/26.
1440/1.
BREST
50°
0700/31.
1100/26.
FORCE H.
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PRINC EUGEN
TANKER. T
RECONNAISSANCE SHIP R
SUPPLY VESSEL S

THE AIR BATTLE

By Air Marshal Sir Robert Saundby, K.B.E., C.B., M.C., D.F.C., A.F.C.

On Wednesday, 3rd December, 1952, at 3 p.m.

Lieut.-General Sir George Erskine, K.C.B., K.B.E., D.S.O., in the Chair

The Chairman : It is a great pleasure to me to introduce our lecturer this afternoon, Air Marshal Sir Robert Saundby. As many of you know, he was the Senior Air Staff Officer of Bomber Command during a very important part of the war, and later Deputy Commander-in-Chief.

He is going to talk to us about the air battle, and there is nobody who is better qualified to speak on that subject.

LECTURE

MY object in this lecture is to outline the growth of air power, and the way in which aircraft have developed from slow, clumsy vehicles, devoid of offensive power, to a position of dominance in practically all forms of warfare. I hope to show how the air battle, from small beginnings, has become the most important battle of all, on the result of which the whole conduct of a war may depend.

Just over 40 years ago, the Committee of Imperial Defence was given the task of advising the Government of the day as to the best way of organizing military aviation. It recommended the creation of a unified air service, and expressed the view, which sounds strange to us nowadays, that in a purely naval war, the whole service should be at the disposal of the Navy, while in a purely land war it should be wholly available to the Army.[1] The result was the establishment of the Royal Flying Corps, with Naval and Military Wings and a joint Central Flying School.

But very soon a separatist movement appeared, and the Naval Wing of the R.F.C. became, in July, 1914, the Royal Naval Air Service. In those days such a step was understandable, since aircraft were short-ranged, with negligible carrying capacity, and were used solely for reconnaissance and the observation of artillery fire. They were, at that time, entirely ancillary to the Army and Navy ; air strategy and air operations were conceptions that lay wholly in the future.

It is unnecessary for my purpose to go into the reasons which, as the 1914–18 War developed, caused the Government to reconsider their decision to divide our air forces into naval and military Services. But among many other factors, it was becoming apparent that aircraft were developing offensive power. They were bringing into warfare a new dimension, and they possessed characteristics enjoyed by no other weapon.

But it was the daylight raids on London by German bombers, in the Summer of 1917, that stirred the Government into action. General Smuts, at that time in this Country and serving as a member of the War Cabinet, was asked to investigate the problems of " air organization and the direction of aerial operations."

I think it is worth quoting some words from his report, because they show a very clear insight into the future. He recorded his view that air power " can be

[1] Report of the Standing Sub-Committee of the Committee of Imperial Defence : 26th February, 1912.

used as an independent means of war operations. Nobody that witnessed the attack on London on 11th July could have any doubt on that point. Unlike artillery, an air fleet can conduct extensive operations far from, and independently of, both Army and Navy. As far as can at present be foreseen, there is absolutely no limit to the scale of its future independent war use. And the day may not be far off when aerial operations, with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale, may become the principal operations of war, to which the older forms of military and naval operations may become secondary and subordinate. . . ."

He recommended that an Air Ministry and an Air Staff should be set up, and that the Royal Air Force should be formed by amalgamating the R.N.A.S. and R.F.C. He thought that the Air Staff should " from time to time attach to the Army and the Navy the air units necessary for naval or military operations, and such units shall, during the period of such attachment, be subject, for the purpose of operations, to the control of the respective naval and military commands."

The War Cabinet approved the Smuts Report, and the Royal Air Force came into being on 1st April, 1918.

I recall this bit of history because it shows that, as long ago as 1917 when the offensive power of aircraft was in its infancy, the idea of air operations, as distinct from sea and land operations, had already been born. Furthermore, the need for the centralized direction of air power had, even then, been recognized.

The 1914–18 War

It is worth looking at the development of military aviation in the 1914–18 War, for the operational experience of those years, and the ideas to which they gave rise, had a profound influence on the growth and organization of our air power and, through our example, on that of the air power of other nations.

In the early stages of the 1914–18 War, aircraft were used solely for reconnaissance and the spotting and control of artillery fire. The organization of the R.F.C. on the Western Front was in harmony with that conception. By 1916, every army possessed its own brigade of the R.F.C., each composed of a fighter wing and an army co-operation wing. Generally speaking, the system worked well, provided that no major battle was going on in a localized part of the front.

It was during the first Battle of the Somme, which began in July, 1916, that the weakness of this organization became apparent. The Germans had not sub-divided their air forces, and the whole force was under the control of Supreme Headquarters in the West. Thus the Germans were in a position to concentrate a large part of their air power in the battle zone. Here they were opposed by little more than the R.F.C. Brigade belonging to the Fourth Army, on whose front the battle was being fought. The result was that in the vital area, though their total strength on the Western Front exceeded that of the Germans, our air forces were largely outnumbered. It proved to be beyond the power of G.H.Q. to compel the disengaged armies to give up some part of their air strength to reinforce the Fourth Army front. Army commanders were naturally strongly averse from parting with their air units to another army, as they had no guarantee when they were likely to get them back again.

In this predicament, G.H.Q. appealed to the Admiralty. There was a considerable number of naval fighter squadrons in existence, well trained and equipped, for which the Admiralty had been unable to find any employment, other than patrolling off

Dover and Dunkirk and other places where few German aircraft were to be found. The Admiralty at once agreed to allow some six or eight naval squadrons to move into the Fourth Army area and reinforce the hard-pressed R.F.C. in the battle zone.

This timely accession of strength did much to restore the situation, but the Admiralty might well have declined to allow their fighter squadrons to be so employed and, as it was, they stipulated that they were to be employed in such a way as to avoid the risk of serious casualties. Not that anyone, least of all the naval squadron commanders, took much notice of that.

This episode clearly showed the need for centralized control of our air forces, so that they could be concentrated, when necessary, at the vital point. As additional forces became available, G.H.Q. wisely retained them in the newly formed 9th Brigade, R.F.C., as a reserve under its own control, instead of allocating them to increase the strength of the army brigades.

Later, after the formation of the Royal Air Force, the 9th Brigade became the Independent Air Force, and undertook the bombing of German industrial areas and centres of communication in the Rhineland.

Both General Smuts, in his report, and the Royal Air Force, later on, made use of the term 'independent' to describe air operations not directly associated with land or sea operations. I think that this term was, in some ways, an unfortunate one, as it gave rise to a fear that the newly created Air Staff wished to engage in a private war of its own, separate from, and quite unconnected with, current land and sea operations.

The Classical Doctrine

Looking back, one can see that the 1914–18 War was the last war to be fought on two-dimensional lines. Although, in that war, the third dimension was making itself felt in the air and under the sea, military thinking was still substantially two-dimensional, and the 'classical doctrine,' built up through centuries of two-dimensional warfare, still governed the conduct of war.

From time immemorial, fleets and armies could move only on the surface of the sea or land, and so the doctrine was evolved that the object in war must always be to bring the enemy's armed forces to battle and destroy them. An example of this way of thinking can be seen in the single-minded pre-occupation of the Admiralty with the destruction of the German High Seas Fleet, and their relative neglect of the much more present threat to our security, the German U-boat. Not until 1917, when the growing losses of our merchant shipping brought us near to defeat, was it generally recognized that, even if the High Seas Fleet were destroyed, we might still lose the war at sea.

On land, on the Western Front, our air forces were tied to a two-dimensional strategy that had become almost bankrupt. For more than three years the armies faced each other, entrenched in a formidable system of earthworks. All but a very few of our numerous air squadrons were employed on routine army co-operation tasks, or in the protection of those so engaged.

Notwithstanding the operations of the small Independent Air Force during the final six months, the 1914–18 War ended before any convincing practical experience of the offensive power of aircraft had been gained. There then began a period of 20 years of peace, during which a running controversy as to the correct organization and use of air power was vigorously sustained between the three Services.

The Doctrine of Air Superiority

With the formation of the Royal Air Force Staff College, soon after the end of the war, the study and understanding of the new doctrines, which followed the coming of the third dimension into warfare, began to make headway. It was realized that the absence of barriers or obstacles in the air conferred on air forces ubiquity of operation, a high degree of flexibility, and remarkable opportunities for concentration, evasion, and penetration. It seemed clear that, to obtain full value from these characteristics, centralized control of air power was needed. Conversely, air power could not hold or occupy territory, and it followed that air operations could achieve success only through a cumulative process.

It had been clearly shown, during the 1914–18 War, that army co-operation aircraft could not carry out their tasks unless they were protected from the attacks of enemy fighters. This protection was provided by the constant patrolling of the sky, over the front, by formations of fighter aircraft. These offensive patrols, as they were called, were responsible for attacking enemy aircraft whenever they appeared, destroying them, or driving them away. Thus the idea of air superiority came into being.

But it was also clear that air superiority was a relative term. The Germans used to keep their fighters on the ground for most of the time, but once or, perhaps, twice a day they would send them up in large formations. In this way they succeeded in completely outnumbering our offensive patrols in the air at the time, since our fighter force was expected to provide cover from dawn to dusk over the whole front. Thus, for a short time each day, the position would be reversed ; the Germans would enjoy temporary air superiority and our army co-operation work would be interrupted.

Our own fighters, therefore, seldom had a battle with the German fighters except under conditions of numerical inferiority. It was, however, our custom always to attack enemy formations, no matter what the odds, and this tough offensive spirit paid a good dividend. It kept the initiative in our hands and caused the Germans to treat our fighters with respect. Thus the results of their tactical concentrations were by no means as serious as they might have been.

As a result of these and other war experiences, the Air Staff formed the view that local air superiority was an essential preliminary to successful operations on land and sea, and also for certain types of air operations, such as army co-operation. It was not, however, an essential pre-requisite for successful bombing operations, though obviously it would be far easier to bring such operations to a decisive conclusion under conditions of air superiority.

Air superiority can be gained only by the destruction of enemy air forces on the ground or in the air. With regard to the first method, the attack of air bases by means of bombs and rockets can be very effective in certain circumstances, especially when such bases are isolated and few in number, as we shall see later when we come to consider the campaign in the South-West Pacific in the 1939–45 War.

With regard to the second method, destruction in the air, we encounter a difficulty here because a major air battle can be fought only when both sides desire it. In this respect air warfare is more closely akin to sea than to land warfare. On land, the enemy army can be sought and brought to battle ; it must stand and fight to defend its country's vital centres from occupation. Even if it should shut itself up in fortresses it can be surrounded, besieged, and eventually forced to surrender or seek a decision on the field of battle.

At sea, however, a fleet can withdraw into protected harbours or inland waters where the opposing fleet cannot follow it. There it can remain, a fleet-in-being, ready to make a sortie whenever the circumstances seem advantageous. It is a constant threat that must be watched and, before the coming of air power, there were no means of getting at such a fleet and destroying it. There was, therefore, no alternative but to take up a suitable covering position, hoping to bring it to battle if and when it ventured into the open. Nelson spent many months under sail, before the Battle of Trafalgar, waiting for the chance of catching the enemy fleet at sea.

In air operations it may be argued that a defensive fighter force can be brought to battle if vital targets are attacked on a sufficient scale, but the conditions under which air fighting takes place are such that it is most unlikely that either the defenders or the attackers could be destroyed or even crippled in one encounter. The effects of such air battles will be cumulative, and vital targets must be kept under constant attack until either the attacking or the defending force is reduced, by attrition and loss of morale, to virtual impotence. But there is always the possibility, especially in these days of atomic weapons, that the enemy might collapse as a result of the bombing while his defending forces were still far from being defeated. This result would be the more probable if the objectives of the bomber force were chosen with the intention of bringing about the defeat of the enemy rather than the defeat of his air forces.

The Object of Air Forces in War

This possibility suggests that air forces in war should not be confined to the narrow object laid down by the classical doctrine—the destruction in battle of the enemy's armed forces. If, instead, they are free to choose a broader object—to compel the enemy to abandon his intentions and submit himself to ours—there seem to be many possible ways of going about it.

Men always have been, and still are, the most valuable and irreplaceable component of the armed forces, but nowadays men without up-to-date weapons, and all the elaborate equipment on which they depend, are virtually powerless. This increase in the relative importance of weapons has been gradual, beginning long ago in the two-dimensional era. It first made itself felt in fighting at sea. For many years now the sea power of a nation could be destroyed if its warships were captured or sunk, even if no sailor lost his life or fell into enemy hands. Without ships of the right kind, the sailor has no military value. On land, armies have gradually come to depend more and more on armour, artillery, and motor transport. Without these things, no civilized army to-day would dream of taking the offensive. With regard to air forces, airmen without suitable aircraft, bombs, and other weapons, and a large amount of radar and other equipment are quite ineffective.

The manufacture, control, operation, and repair of this mass of intricate gear ties down an enormous number of factory workers, technicians, and administrators, with the result that those who do the actual fighting are tending to be less numerous and more highly trained than ever. The whole man-power, material resources, and industry of a nation at war, nowadays, are absorbed into its war machine.

With the coming of long-range air bombardment the whole of this war machine, and not only the armed forces, lies open to attack. Depending upon the circumstances, therefore, a variety of methods might be employed to compel the enemy to submit to our terms. He might be defeated by destroying his armed forces in battle, by

destroying his industrial capacity, by paralysing his communications, by destroying his fuel supplies, by starving him of food and raw materials (as in blockade at sea), by breaking down his morale, or, more probably, by a combination of two or more of these courses of action. The courses chosen would naturally be those which were judged to be most economical and likely to succeed.

These conclusions appeared well-founded and, indeed, inescapable to those of us who had made a study of three-dimensional war, and we were sometimes surprised at their effect on those who had not been called upon to do so. I well remember how, in the middle and late twenties, we in the Air Force went around talking about air superiority and the new doctrine, and the unsympathetic reactions which these propositions used to evoke in the older Services. Indeed, there came a time when it needed courage for an airman to use the words ' air superiority ' in a mixed Service gathering, while the phrase ' independent air operations ' was certain to land him in trouble.

It was very natural and understandable that this should be so. The classical doctrine had been valid for so long that it had almost usurped the status of a principle. And sensible discussion of the problems of three-dimensional war was not helped by those who wrote books making exaggerated claims for air power as it then existed, and insisting that its coming had changed the principles of war. The principles themselves remained unaltered; it was the doctrines derived from those principles that needed re-shaping.

The 1939–45 War: Norway, 1940

When the 1939–45 War came it provided an early opportunity of testing the truth of one of the Air Staff doctrines—that a reasonable degree of air superiority is essential before successful land or sea operations can be carried out. On 9th April, 1940, the Germans invaded Denmark and Norway. Denmark was soon over-run but it appeared that, if we acted quickly, we would be in time to help the Norwegians. We had naval superiority in the North Sea and a well-found military force ready to embark at short notice. This was an operation in the amphibious tradition, the kind of operation that had served us well in the past.

There were many airmen, however, who had serious misgivings about the practicability of this plan. The German Air Force was firmly based in Jutland and Denmark and had obtained a footing in South-West Norway. The small Norwegian Air Force had been almost entirely eliminated. The whole of Norway and the eastern half of the North Sea were beyond the range of fighters based in this Country, and it was hard to see how our naval forces and convoys could be protected against German air attacks. Even if we could land our army, we had little reason to believe that we could keep them supplied by sea. Nor had we much hope of establishing our air forces ashore, in the face of superior German air power, in sufficient strength to defend our ports and bases in Norway and provide support for our land forces.

Here, in short, was a plain case of projected sea and land operations, for which the essential pre-requisite of air superiority could not be provided. It was resolved, however, to execute the plan and put the matter to the test.

We all know the answer now. Though we succeeded in landing, we failed to maintain our supplies. Our bases in Norway were smashed by air attack, and our attempts to build up our air forces ashore never had a chance of success. We had to

call the whole thing off and evacuate our forces. Our attempt to hang on to Narvik in North Norway failed, and we had to withdraw from there also.

This was a sharp lesson and, for what it was worth, it appeared to support the truth of the Air Staff doctrine. During the years of war that followed, however, the truth of that doctrine was abundantly demonstrated and now hardly anyone, I suppose, could be found to challenge it. As far as land warfare is concerned, perhaps the last word, from the airman's point of view, was spoken by Field-Marshal Montgomery when he said, on 27th December, 1943: "First of all you must win the battle of the air. That must come before you start a single sea or land engagement. If you examine the conduct of my campaigns, you will find that we never fought a land battle until the air battle was won."

The position with regard to sea warfare is not, however, from the airman's angle, quite so satisfactory and clear cut. A tendency is noticeable, on the part of naval writers, to claim that aircraft carriers and other warships, by virtue of their own seaborne fighter protection and powerful anti-aircraft fire, can nowadays stand up to full-scale attack from land-based air forces. They admit the need for local air superiority, but believe that naval air power can provide it. This is, I suggest, an illusion which could have dangerous consequences. The concentration which land-based air forces can bring to bear against warships offering themselves within range will always be greatly superior to anything that seaborne aviation can put into the air in its own defence.

The Strategic Bombing of Germany: 1941–45

The strategic bombing campaign against Germany, carried out by the United States 8th Air Force and Bomber Command, threw further light on the Air Staff doctrines regarding air superiority.

The two Allied bomber forces operated under very different conditions. The Americans, from the first, were determined to operate in daylight. Their aircraft were suitable for the purpose, their squadrons were well trained in formation flying, and their bombardiers could bomb with great accuracy provided that they could see the target. Bomber Command, on the other hand, was equally determined to operate at night. I am not concerned here with the rival merits of day and night bombing, but it is perhaps worth noting, in passing, that, taking the campaign as a whole, there proved to be little to choose between them on the grounds either of bombing accuracy or the incidence of casualties.

But in one respect there was a fundamental difference. Formations of bombers in daylight undertaking deep penetrations of enemy territory cannot avoid large-scale interception by enemy fighters, and they must be able to fight their way to and from their targets. Night bombers, on the other hand, flying singly but concentrated in time and space, have large opportunities for evasion, and comparatively little defensive strength. The degree, therefore, of air superiority required for successful operations by day and night bombers is widely different.

The American day bombers had to carry a large battery of guns, requiring a numerous crew and a corresponding reduction of bomb load. They also had to be accompanied by escorting fighters, specially modified to give them the necessary long range. The effort, therefore, in terms of manpower and aircraft, for a given load of bombs carried into the air, was considerably greater than that required for

night bombing. But day bombing operations yielded a far higher dividend in enemy fighters destroyed than did night bombing, and this should be balanced against the greater effort involved.

The strategic bombing campaign affected the German Air Force profoundly in two ways. First, it threw the Germans on the defensive in the air at an early stage in the war, even before the American day bombers began to operate. The Germans had to turn from building bombers, and even tactical aircraft, and concentrate more and more on the production of defensive fighters. Of course, they were not foolish enough to suppose that they could dispense with the air offensive and yet hope for eventual victory. They pinned their faith, for offensive purposes, on their new " V " weapons which could be built by tapping resources largely outside their aircraft industry, thus leaving it free to devote itself to the production of fighters.

By the beginning of 1944, when the strategic bombing campaign was drawing to a close, the Germans were employing three-quarters of their whole air resources in the defence of their homeland, leaving only one-quarter for all other purposes, including the support of their hard-pressed land forces in Italy and on the gigantic Eastern Front.

Secondly, the American 8th Air Force, after a long and courageous struggle, won the air battle over Germany. In the process, they destroyed a large number of the defending fighters and, at the end, the morale of the German day fighter force was completely broken. And although the German night fighter force had not suffered such heavy casualties, it had also failed to stop the bombers, and was becoming worn out and disheartened.

As a result of this, the German Air Force scarcely attempted to resist the invasion of Normandy in June, 1944. The degree of air superiority which the Allied bombing campaign had won was almost absolute.

That was an example of total air superiority gained as a by-product of the operations of a bombing campaign which, for the most part, was directed against target systems unconnected, or only indirectly connected, with aircraft production.

The War in the South Pacific: 1942–45

If we turn to the South Pacific and look at the operations of the American and Australasian forces against Japan, we shall find examples of air superiority gained by quite different methods.

After the attack on Pearl Harbour the Japanese armies drove southwards, and within five months gained possession of almost the whole area of the South-West Pacific. The Allied forces, driven back on to Australia, maintained a precarious hold on the South-East corner of New Guinea. But, by the Summer of 1942, the tide had begun to turn. For three long years the Allies fought to win back, island by island and base by base, the areas so swiftly and dramatically lost in the first half of 1942.

The methods adopted by the Allies was simple in conception, but slow, difficult, and often very wearisome in practice. Realizing the importance of air power and the need for local air superiority, under cover of which sea power could operate and armies move forward, General George C. Kenney's plan was to reduce the Japanese air bases, one at a time, by concentrating everything he had against them.

The key to the Allied advance was the control of communications. As General Kenney pointed out in a letter to General Arnold dated 24th October, 1942: "In the Pacific theatre [the enemy] have a number of islands garrisoned by small forces. These islands are nothing more or less than aerodromes or aerodrome areas. . . . Sometimes they are true islands like Wake or Midway, sometimes they are localities on large land masses. . . . The only practicable way to get from one to the other is by air or by water: they are all islands as far as warfare is concerned. Each is garrisoned by a small force and each can be taken by a small force once local air control is secured."[2]

Isolation of any chosen area was thus largely a matter of the air attack on shipping and convoying naval vessels. In this way, after isolating an area by cutting its sea communications, General Kenney, time after time, 'took out' a Japanese base by concentrated bombing and low-flying attack. It was Kenney's aim to create a situation in which, in his own phrase, the Allied land forces could "go in with their rifles on their backs." And so they did, on many occasions, and the final assault was nearly always carried out against negligible opposition.

It is interesting to observe, in this technique, how the offensive power of the air was first employed to isolate a base by cutting its sea communications. This achieved, the enemy air forces were then destroyed by direct attacks on the airfields. The repeated and unvarying success of this method owed much to the rigidity of Japanese military thinking and their ignorance of the true meaning of air power. The punishing experiences which they suffered at the hands of the Allied air forces never taught them how to avoid local disaster, or to use their own air power to good effect, at the right moment, against the Allied air bases.

This great struggle illustrates very well the influence of air power on land and sea operations in an oceanic setting. The key to victory in each succeeding phase of the campaign was the air battle; once this was won, and local air superiority established, the issue was never in doubt.

Air Superiority in the Future

Summing up, we can see that the 1939–45 War confirmed the truth of the Air Staff doctrines, the parentage of which might perhaps be described as 'out of the eternal principles by three-dimensional warfare.' In particular, it proved that a successful strategic bombing campaign could be carried out without the prior defeat of the enemy air forces, and that total air superiority might be one of the fruits of such a campaign. And it showed how true was General Smuts's prediction, in 1917, that "an air fleet can conduct extensive operations far from, and independently of, both Army and Navy."

In the 1939–45 War, there was a clear distinction between local air superiority, examples of which we have noted in North Africa and the South-West Pacific, and total air superiority, such as the Allies enjoyed in Western Europe at the close of the strategic bombing campaign. There seems, however, to be good reason for believing that such a distinction may not be valid in the future.

To obtain local air superiority it is necessary to defeat only that part of the enemy's air force which is within striking range of a particular theatre of operations. The technique, as we have seen, is to isolate the area by cutting its communications,

[2] *The U.S. Army Air Forces in World War II*, Vol. IV: p. 119.

and then to destroy as much as is necessary of the local forces on the ground or in the air. This was made possible in the 1939–45 War because of the generally short range and low speed of military aircraft. Air forces based 1,000 miles away were too far off to intervene effectively, and so could be ignored. We were able to destroy enemy air power, piecemeal, in the Mediterranean and the South-West Pacific, because the main enemy air strength had insufficient range to come to the rescue.

But, nowadays, the range and speed of comparable types of aircraft have greatly increased as a result of jet propulsion and improved design. The range of the modern bomber is already so great that it can be described as inter-continental and it can be further extended, if desired, by means of such devices as refuelling in the air. And Sir Roy Fedden, a very distinguished authority, has recently expressed the view that the next six years will produce even greater advances in aircraft design and performance than the last six.[3] It is clear that effective intervention from bases 1,000 or more miles away, with aircraft capable of speeds of upwards of 500 m.p.h., would be perfectly feasible. The area, therefore, to be brought under control to achieve local air superiority must be enormously extended. Indeed, it is probable that this extension will be so great that the term local air superiority will lose its significance.

The Unity of the Air Ocean

These developments give a new meaning to the unity of the air ocean. It is true that the sea is one, but it has its shores and shallows, its barrier reefs and land-locked waters. The air ocean is wider than the oceans of the sea; it lies over the whole globe and knows no shores or barriers. The unity of the air ocean and the great range and speed of modern aircraft must mean that the air situation in war cannot be dealt with by zones or areas, but must be regarded as a whole.

If, therefore, local air superiority is a thing of the past, it will be necessary to aim, at the outset, at nothing less than total air superiority. The air battle, embodying the main air strength on both sides, may have to be fought and won before any nation, especially any nation dependent on sea communications, can contemplate embarking on offensive sea or land operations. Or the battle may assume the form of a direct full-scale attack on the enemy's vital centres, taking advantage of the fact that air superiority is not an essential pre-requisite to successful operations of this kind.

Then, indeed, in the words of the Smuts Report, "the day may not be far off when aerial operations, with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale, may become the principal operations of war, to which the older forms of military and naval operations may become secondary and subordinate."

If this is a true picture, it will involve fundamental changes in our ideas, and in our methods of waging war. It will be necessary to think out the best way of bringing about the air battle on advantageous terms, or to be ready immediately on the outbreak of war to deliver crushing attacks on the enemy's vital points. This, in turn, may involve a reconsideration of the disposition and equipment not only of our own air forces, but of those of the whole free world.

I feel sure that these important problems are exercising the minds of those responsible for our defence, for, whether or not my reasoning is correct, it is certain

[3]Rex Pierson Memorial Lecture: 12th November, 1952.

that we cannot afford to ignore such significant possibilities. For it may well be that the air battle, in whatever form it may take, will be the crucial battle in any future war between great Powers, and that, once it has been decided, the final issue will no longer be in doubt.

DISCUSSION

GROUP CAPTAIN J. R. GORDON-FINLAYSON: May I raise a point about air superiority and bomber operations? The lecturer said that it was one of our tenets that air superiority was not an essential preliminary for bomber operations. But is not there a point here that air superiority is relative to what you really want to do, and that you have got to establish the conditions in which you can conduct your bomber operations? I need hardly tell the lecturer that; but the fact is that it is a type of air superiority, and it may be entirely electronic in the future. We cannot simply say that we do not need a form of air superiority to carry out our bomber operations successfully. I should have thought that it was quite fundamental, although it is a question of degree.

From this point I should like to go on to speak about local air superiority and general air superiority. Local air superiority is primarily dependent upon a defensive effort which is dependent upon short-range weapons—fighters, anti-aircraft guns, and so on—whereas general or overall superiority is primarily dependent on knocking out the source of trouble, thereby giving you freedom from air attack and freedom to attack as you like. I certainly agree with the lecturer's tenet that we may have to have total air supremacy, but primarily on the ground that defensive weapons are becoming less effective, and more and more we simply must rely on the offensive as the only form of air action which will give us any type of superiority at all.

To go back to the original point that I made, I think we must hold that there is a type of air superiority that we must establish in order to conduct our bomber operations effectively.

THE LECTURER: This is a difficult subject, of course, which deserves very much fuller treatment than I was able to give it in my lecture, but it was only one of a large number of points that I had to try to cover under the omnibus title of "The Air Battle."

I think that the great point is this, that if you decide, before you attempt to carry out a bombing campaign, that you must try to achieve some measure of air superiority, you may in fact go on for a long time without achieving that, and in the meantime, if the enemy has not done that but has gone straight to the point, you may find yourself getting very much the worse of it.

This is a situation that we were facing in 1940. We had just succeeded in beating off the German attacks on this Country. Our Fighter Command had succeeded in establishing a defence against the *Luftwaffe*, which outnumbered it by four or five to one. We then turned round almost immediately and seized the initiative in the air, and with our small bomber force, which was outnumbered by a considerable margin by the enemy fighter forces, we succeeded in reversing the situation. We did not attempt to establish any form of air superiority before doing that. Instead, we operated at night because that gave large opportunities for evasion and penetration; and we hoped, by using every kind of deceptive method, by feints and so on, to reach our targets without being intercepted in any significant degree by the enemy air force. To a very large extent the night bombing campaign was carried on against an enemy fighter force which was numerous and undefeated right to the very end.

The day bombers could not evade enemy fighters. They had to fight it out. It was a long and bitter battle, and at one time the going was very even; but in the end the American 8th Air Force did succeed in defeating the German day fighter force. When they had done that, they could do what they liked. I admit that if you can do that, it is far more satisfactory; indeed, almost right up to the end of the war, Bomber Command,

operating at night, had to be very careful what it did. It became easier in some ways for it to operate in daylight, once the American 8th Air Force had defeated the German day fighter force. I did say in my lecture that, although you did not require air superiority before you could commence to carry out successful bombing operations, it was obviously far easier to bring such a campaign to a decisive conclusion if you did establish air superiority.

GROUP CAPTAIN J. R. GORDON-FINLAYSON: The point I was making was that air superiority is relative to whatever you are trying to do. It is relative to whether you are trying to help the Army or the Navy or defending this Country, or using bomber forces. If you have not got the necessary form of air superiority to allow you to use your bomber force, you will not be able to bomb—that is all there is to it.

THE CHAIRMAN: This raises the question of the use of the bomber force in the air defence. Is it not true that Bomber Command made, in its way, a great contribution to the Battle of Britain?

THE LECTURER: It is true that during the Battle of Britain the whole of Bomber Command was used in a defensive way to attack the enemy airfields from which the bombers and fighters that were coming over to this Country started, and also to smash up the Germans' invasion preparations in the Channel ports. They had brought enormous numbers of barges to Calais, Boulogne, Dunkirk, and other ports; those ports were simply full of material, and large numbers of troops were encamped around them. That was a principal target of Bomber Command. It is true that in the battle then for air superiority, the bomber force was largely employed alongside Fighter Command in that struggle. It was not until that struggle was over, and the Germans had abandoned their attempt, that Bomber Command was able to turn to the offensive and begin the strategic bombing campaign against Germany.

CAPTAIN F. M. A. TORRENS-SPENCE, R.N.: If I understood the lecturer correctly, his opinion is that we should stop wasting money on aircraft carriers. His conclusions were drawn, I think, from the last war. It is not widely known that of all the carriers we had in the last war, not one was sunk by shore-based aircraft, in spite of the fact that they operated for long periods in the Mediterranean, the Far East, and the northern convoys. We did, admittedly, on two occasions have carriers put out of action by shore-based aircraft, but on both those occasions the reason was that the carriers were short of fighters because of insufficient priority for naval aircraft. The *Formidable* in the Mediterranean had, I believe, only two serviceable fighters, and the *Illustrious*, about which I speak feelingly because I was on board, had five serviceable fighters.

So, if I may express an opposite opinion to the lecturer, I would say that the experiences of the last war do not lead one to his conclusions about carriers.

As regards what we should do now, the lecturer implied that shore-based aircraft have increased so much in power and range that, whatever happened in the last war, the carriers will not be able to keep at sea in future. I should like to ask the lecturer what method he would propose, in the absence of carriers, to stop our shipping being sunk in the Atlantic in the event of a continental Power being in control of Europe and having shore-based aircraft free to roam the ocean? This is the first problem before considering Mediterranean or other inshore convoys, or other forms of attack on merchant ships.

THE LECTURER: I never intended to give any impression that I thought the aircraft carrier was finished or useless, or that we should not have any. I was pointing out that they must be assured of some type of protection from the air if they are going to survive. If you are going to offer yourself close to the main enemy air strength and beyond the range of your own shore-based fighter protection, then it is theoretically possible, and will always be theoretically possible, for the enemy to concentrate far more against the ships than the ships can possibly put up in their own defence. I should be the first to say that the carrier is not only invaluable but is probably the primary means of defending our ocean convoys. For that purpose it has certainly got a future for as far as I can see, and

perhaps as far as anybody can see. It is the only way by which you can provide convoys in large ocean stretches with any degree of air protection; and not only can they give some protection against air attack, but they are invaluable in providing aircraft for the hunting of submarines and the protection of convoys from under-water attack. Definitely for these purposes they have a use and nothing else can take their place. It would be most uneconomical to try to do that sort of work at 2,000 miles range with shore-based aircraft

When the convoys are close to our shores, in the North-West or the South-West Approaches, when they are really close to a dangerous continental air Power, one hopes that they will come under the umbrella of our own defensive zone and therefore will proceed in safety under that additional air protection.

But when the carrier goes near to an enemy mainland where its metropolitan air power is based, and attempts to attack that mainland, then I think there is no hope of providing—in theory, anyway—a defence against what is likely to happen to it. But even then, of course—war being what it is—one can sometimes do that sort of thing by means of a carefully thought out surprise attack, followed by a rapid retreat, and get away with it.

GROUP CAPTAIN J. R. GORDON-FINLAYSON: Might I add a rider to something that the lecturer said? He mentioned that in the old days it was very difficult to say almost anything about aeroplanes among the other Services. As a young serving officer nowadays, I find that it is precisely the opposite at present. I find that almost the first thing they ask about in the Army and the Navy, wherever I go, is the Air Force. They are quite content to sit with a glass of port or whatever it happens to be and to listen for no matter how long to the airman's ideas. I think that the officers coming up in the Services are extremely well educated in our particular theories. The captain who spoke about carriers obviously has his heart in the carrier, and so, with certain practical reservations, have we, for that matter. We shall like to have a lot of carriers round the Atlantic.

I think the days are passing when the other Services, the Navy and the Army, were antagonistic towards the tenets that we put forward.

THE LECTURER: I think that is very true. One of the great gains that we had in the 1939–45 War was that it did very much to establish what the position of air power was and should be, and how it could and should help, not only in furthering its own ends, but in helping the two older Services.

There was one thing that struck me very much during the 1939–45 War. I used to have to go round and give lectures at Greenwich, Camberley, and the Air Force Staff College. In the early days of the war, from the questions that were put to me and the tone of voice and the type of discussion, I could easily tell where I was, even if I had had my eyes shut. The curious thing was that, as the war went on, the type of questions and the attitude of mind became similar in all three Staff Colleges. If I had had my eyes shut, I could not have told where I was!

THE CHAIRMAN: We have heard an extremely interesting lecture from Air Marshal Sir Robert Saundby. I am sure that Group Captain Gordon-Finlayson was right when he said that the Royal Navy and Army fully appreciate the wider picture of the air that has been painted to us this afternoon.

This picture of the air battle is one which I think every serving officer of any of the Services has very much in his mind. Of course, he thinks of his own Service, but more and more all of us are aware that the air battle is bound to happen next time. Whether it will be quite like the one that was fought by Bomber Command and the American 8th Air Force, the mere soldier or sailor does not pretend to know; but it has certainly been very interesting to hear the lecture this afternoon, a lecture which has showed us that the air battle will be a bigger thing, a more complicated thing, than it has ever been before.

It always seems to me that the trouble the Royal Air Force is going to have in fighting the air battle will be to pick out which of the many targets will give quick results. So many of the targets that may be chosen are inclined to have a time-lag attached to them. If you hit the enemy's communications, you do not notice the results of that destruction of his communications the next day. Again, if you attack the enemy's fuel, or some important industrial organization on which he is dependent for material, you will not get results necessarily at once. There is always a time-lag. The greatest difficulty that I see facing the Royal Air Force in fighting the air battle is to choose the targets that are really going to give quick results and not to have their eye taken off the ball by picking targets that, perhaps, are not going to be the most effective ones. It seems to me that that is the crux of the question. The Royal Air Force has got to pick the targets that will give results quickly.

We do not doubt that the air battle will be won, as it has got to be won. It will be won again, I am sure, by the devotion to duty and the attention to their profession which those in the Royal Air Force have always shown.

It now only remains for me, on your behalf, to thank Air Marshal Sir Robert Saundby for his inspiring and interesting lecture, which will add greatly to the knowledge and interest in the subject on the part of all who have heard it. (*Applause.*)

COLOUR FILMS AND COMMENTARIES

By Mr. William Courtenay, O.B.E., M.M.

ASSAULT LANDINGS IN THE PACIFIC WAR

On Wednesday, 5th November, 1952, at 3 p.m.

Air Chief Marshal Sir James Robb in introducing Mr. Courtenay said that he had seldom attended a lecture where he had come across anyone who was better qualified to talk to members and to show them these films on the assault operations in the Pacific. For not only did Mr. Courtenay take part in these events; he actually served with the American and Australian forces throughout the four years of the war in the Pacific as a war correspondent, and since then had been several times to Malaya, Japan, and Korea. He was an honorary life member of the United States Army and the United States Air Force. There was, too, another major assault operation, undertaken by Britain and the Commonwealth, in which he had taken part—the Gallipoli campaign.

The first film showed the landing by the U.S. 1st Cavalry Division at Leyte, in the Philippines, on 19th October, 1944. It showed the U.S. and Australian navies forming up at the Admiralty Islands and at Hollandia, Dutch New Guinea, in September, 1944, preparatory to the movement to Leyte; the scenes at sea during the ten days movement of the vast convoys of 600 ships towards the Gulf of Leyte; the naval bombardment during the hour prior to the landing; and the first waves of assault craft landing on the beaches. The commentary described how the U.S. Navy and its air power from carriers protected the convoys during the transport phase and provided the bombardment during the assault phase.

The second film showed the landing of elements of the 9th Australian Division at Labuan Island, Brunei Bay, British Borneo, on 10th June, 1945. It showed the forming of the convoys at Morotoi in the Dutch Halmahiras and the five-day movement towards Borneo, 1,000 miles westward. In this film Mr. Courtenay accompanied the U.S. Navy and transferred near the beaches in the transport area to one of the U.S. Navy's rocket-firing landing craft. The film showed the pre-bombardment at close quarters and the landing, and then scenes ashore as the first days of the campaign opened and the Army made good its ground. The commentary described the sequence of events and showed how in modern war carriers play a notable role in support of assault landings, additional to their strategic role of softening up island defences some days prior to the arrival of the assault forces.

Lieutenant-General J. C. Westall thanked Mr. Courtenay for showing his film and for his most comprehensive commentary. He knew that all found it extremely interesting and, although he hesitated to use the word, those who took part in the war against Japan had found it almost nostalgic. He did not think that a film of this type called for any discussion. He mentioned that the blockade of the China coast was enforced initially in 1943 from the air by General Chenault from Chunking. In spite of tremendous difficulties it had had a great effect.

EXERCISE "MAINBRACE" AND THE FARNBOROUGH AIR DISPLAY, 1952

On Wednesday, 26th November, 1952, at 3 p.m.

Vice-Admiral C. A. L. Mansergh introduced Mr. Courtenay.

Exercise "Mainbrace"

The film showed scenes taken as the N.A.T.O. fleet left the Clyde on Saturday, 13th September, 1952; scenes at sea; aircraft operating from H.M.S. *Eagle*; a flight by a U.S. Piasecki type helicopter round the N.A.T.O. fleet, landing aboard the U.S. carrier *Midway*; and scenes of American aircraft operating during the exercise. The commentary surveyed Exercise "Mainbrace," showing the route of the ships, the nature of the problem of defending Norway and Denmark, and dealt with the objects of the Exercise and the lessons learned from it. It also dealt with the U.S. thesis that carriers could operate from restricted waters against a great continental land mass, with the U.S. experience of building the fleet train in the Pacific war, and its experience of carrier-borne operations amid Pacific islands. It showed how that experience could be applied in the North Sea, and dealt also with the opposition to this thesis. The use of the fleet train was seen in Exercise "Mainbrace", and its value demonstrated in modern conditions where atomic warfare might deprive N.A.T.O. Powers of the use of fixed bases in the early phases of the initial struggle for mastery in the air.

Farnborough Air Display, 1952

The film opened with a few scenes by way of historic build-up to the 1952 Air Display. Included were scenes taken of the last survivor of the team which helped to push the Wilbur Wright biplane at Kitty Hawk, N. Carolina, on 17th December, 1903, for the world's first heavier-than-air flight; the Bleriot 1909 monoplane flying at some post-war air displays; other 1914-1918 planes flying at post-war air displays; the Comet air liner landing at Copenhagen on its test flight, and so on.

Then followed scenes taken at the 1952 Air Display of the various types of new aircraft, including the supersonic types. The commentary dealt with the function of each, and the problems of modern defence, etc., against air attack.

Vice-Admiral C. A. L. Mansergh said he was sure that all present would like him, on their behalf, to thank Mr. Courtenay very much for showing these very beautiful films, and also for his very interesting and knowledgeable talk about them.

THE JAPANESE NAVY IN THE LATE WAR

By Major C. S. Goldingham, R.M., F.R.Hist.S.

IT is commonly said that the Japanese Navy in the 1939–45 War was badly served both by its direction from the top and by the industrial echelon which supported it. Whilst this is true, the difficulties of Japan must not be forgotten. She was a Power of the second order waging war practically single-handed against two Powers of the first order. This dictated her policy and strategy; and, taken in conjunction with two tendencies of the national character, inability to meet sudden emergencies and lack of steadfastness in pursuing a course of action, goes far to explain mistakes curiously out of keeping with the masterly planning and execution of the great initial operation which, in the space of less than six months, made Japan temporarily master of the Far East.

Perhaps the gravest charge brought against the Japanese Navy is that it failed to take the necessary steps to protect the sea communications of the island Empire; yet, hampered as Japan was by shortages of every kind both before and during the war, she made such provision for the contingency as was possible. Her shipbuilding resources precluded absolutely the provision of an adequate anti-submarine and escort fleet. Banking on a short war, she underestimated the losses which her merchant marine would suffer within the perimeter of naval and air bases with which she surrounded the seas on which they sailed. The vacillations of her naval policy were due to her having, after the Battle of Midway in June, 1942, lost the initiative and being compelled to improvise. The authorities were obsessed with the knowledge that she had but one fleet and no possibility of building another, and that the fleet was the final insurance for the protection of the home islands. In such circumstances, it was in the Japanese character to piecemeal and vacillate, and so lose all. A stream cannot rise higher than its source.

The Men of the Navy

The men who manned the Japanese fleet were the pick of the nation. Conscription was introduced after 1930, every male subject between the ages of 17–40 years being liable to military service unless he was the only support of his family. About two-thirds of the men were conscripts and one-third volunteers. The period of service was three years on active service, five years in reserve, and seven years in second reserve. For petty officers the terms were six, four and three years respectively. After the expiration of his first period of active service a petty officer or man could if he wished re-enlist into active service for several periods of two years, before going to reserve. Japan had the largest fishing fleet in the world, in addition to a considerable merchant marine, and had thus a good stock upon which to draw for the manning of the fleet. On the other hand, her rise as an industrial Power was comparatively recent, and there existed in the country no widespread mechanical sense as in Britain and the United States. The men were amenable to discipline, and the disciplinary regulations were not unlike our own. Great stress was laid on preserving military secrecy. Sentences were promulgated in front of the ship's company in the case of a seaman, or the petty officers in the case of one of the latter.

The training methods and organization of the Japanese Navy were modelled on the British. Though the Navy was of recent creation and had no history or tradition comparable to the Army's, it possessed a high standard of *esprit de corps* and, within the limitations of its material, had been brought to a high pitch of efficiency. Training

tended to make of the men automatons and enhance the national inability to deal with emergencies.

The training was uncommonly hard and, for the sake both of secrecy and hardening the men, was carried out in the stormy northern waters where the Japanese had secret bases at Hitokappu Island and Paramushiru in the Kuriles. There were two exercise periods yearly, one in the late Winter and one in the early Autumn; and it is said that the loss of a hundred or more men washed overboard or killed by accident during exercises was commonplace. No mention of this ever found its way into the muzzled Japanese Press; and it was typical of the Japanese that if he ever asked himself whether such losses were really necessary nobody ever championed his cause.

Crews tended to be larger than in British ships, type for type, and life on board was Spartan by western, though perhaps not unduly so by Japanese, standards. Food was good, as it had need to be in the conditions. Cadets and recruits received extra rations. The midday meal was of western type, with meat, whilst at breakfast and supper the men were given Japanese food. Baths were normally taken on shore, leave for the purpose being provided for in the regulations. Even in peace time men ashore were at two hours' notice to return to their ships unless on compassionate leave, application for which had to be backed not only by a doctor, but also by the local civil authority. No man could marry unless the captain of his ship approved of the antecedents of the prospective bride.

The Officers

Japanese naval officers were drawn from all classes and their standard of professional efficiency was high. Several failures in the upper ranks came to light during the war, largely caused by the difficulty found by the Japanese of dealing with the unexpected. Promotion by seniority led in April, 1944, to the appointment as Commander-in-Chief, Combined Fleet, of Admiral Toyoda who was taken from the retirement appointment of Commander-in-Chief of a home port and had no seagoing experience in the war, though there were available junior admirals, such as the fire-eating Kondo, who had proved themselves. Under Toyoda, the jealously preserved Japanese Fleet was destroyed in two battles.

There were some failures, too many in fact, amongst senior officers to maintain their object. The most publicized is that of Admiral Kurita who allowed the Allied invasion forces of the Philippines to escape destruction at Leyte when he had them at his mercy. Admiral Morison, in whose history of the war no loose statement is ever to be found, considers that the behaviour of Admiral Nagumo at the Battle of Midway was at one point faint-hearted; and he quotes the war diary of the *Nachi* to the effect that at the Battle of the Java Sea the splashes of the *Houston's* shell bursts, stained blood red with dye, terrified some of the junior officers. Nagumo had, however, to be almost forcibly removed from the bridge of his sinking ship, and indeed instances of admirals and captains going down with their ships were commonplace. Bravery was, in fact, a Japanese characteristic.

The refusal both of officers and men to surrender is well known. Amongst the men this was due to inculcated doctrine and the knowledge each man had, that on his return home the prisoner of war was a pariah. It is less safe to generalize about the officers. Loss of face means much to the Oriental, it is true: so much, indeed, that the lack of fibre which undoubtedly existed here and there was never allowed indulgence except in situations where detection was almost impossible, as for example,

when a submarine captain forbore to press home an attack, neither his officers or crew being in a position to criticize.

The Japanese was the victim of the national character. Two generations only separated him from the uncivilized, and he retained the stoicism, disregard of pain, and capacity to rise to the heights of fervour of his ancestors. Ruses and traps are enjoined in official literature, characteristics of the 'wily savage.' But too often he lacked steadfastness and perseverance. The diaries of officers and men in situations of prolonged adversity too often end by whining and self-pity. Many an Allied submarine owed her escape to lack of persistence in the hunt by Japanese anti-submarine forces. The action reports of American naval flyers, after the highly trained pilots of the early part of the war had been used up, frequently remark on the disinclination of the Japanese to attack unless the odds were in their favour. Students of psychology can doubtless explain how this could go hand in hand with suicide aircraft operating.

The Ships

When in January, 1936, Japan withdrew from the second London Naval Conference she at once set about modernizing her major warships and increasing the size of her fleet. Modernization of the battleships and cruisers was practically complete before war broke out. The building programme was intensified from 1936 onwards, and the size of the fleet at the outbreak of war was nearly double that at the end of the 1914–18 War. New construction continued at a high level until 1944, though on account of shortage of materials and other reasons the emphasis, apart from aircraft carriers, came to be placed more and more upon light craft and finally upon special attack (suicide) craft.

The building programme was framed to meet the requirements of operational policy in war. This was, to use the aircraft carriers as striking forces with destroyers for screening and heavy ships as floating platforms for anti-aircraft batteries. No cruisers other than light cruisers were laid down after 1935. The heavy cruisers carried float planes for tactical reconnaissance, thus leaving the whole of the carriers' aircraft free for strike and fighter protection (combat air patrol) duties. For long range search and reconnaissance the Japanese relied largely on four-engined float reconnaissance aircraft and flying boats, working from tenders stationed at the numerous potential seaplane bases in the area conquered in the first six months of the war.

The design of Japanese surface warships other than aircraft carriers did not differ radically from British and American. Whilst, however, the British Commonwealth, France, and the United States were bound by the Treaty for the Limitation of Naval Armaments of 1936, not to exceed a limit of 35,000 tons for each battleship and 16 inch for guns, the newest Japanese battleships, *Musashi* and *Yamato*, which joined the fleet soon after the outbreak of war, displaced 72,800 tons at full load and were armed with nine 18.1 inch guns, thus far exceeding in power any other battleships afloat. Building of aircraft carriers began in 1934, and in order to build up a sufficient carrier fleet for the war two, the *Kaga* and *Akagi*, were converted from a battleship and battle cruiser design respectively. There were subsequent conversions; and after the loss of six carriers between May and August, 1942, two battleships, the *Hyuga* and *Ise*, were converted to 'battleship carriers' for 22 aircraft by the removal of their two after 14-inch turrets and the fitting of flight decks aft. Conversion took a year, and the Japanese then found, as they should have known

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before, that a 21-knot carrier, the full speed of these old ships, was quite useless except for escort purposes. This was typical of the Japanese. More than once during the war building programmes were started, only to be scrapped after a start had been made. At one time a programme of 130 destroyers, badly needed by the fleet, was begun, and was stopped when 35 had been completed.

Japanese cruisers were distinguished by high speed and heavy armaments, a result obtained partly by length of hull and partly by reducing thickness of armour, especially above deck. Lightly protected or not, they stood up well to punishment, a result attained by considerable subdivision of the hulls. This was especially the case with the *Musashi* and *Yamato*, which required respectively nine and eighteen aircraft torpedoes to sink them. Japanese destroyers were the first to enclose their twin 5-inch guns in gun-houses.

On the outbreak of war, the ships, other than those in the China Fleets, were organized for administrative purposes as follows :—

Commander-in-Chief, Combined Fleet

2 battleships (16 in.)
2 submarine flotillas

First Fleet	8 battleships (14 in.)
(*Battle Fleet*)	6 cruisers
	2 cruisers (flotilla leaders)
	28 destroyers
Second Fleet	12 cruisers
(*Scouting Fleet*)	2 cruisers (flotilla leaders)
	28 destroyers
Third Fleet	3 cruisers
(*Blockade and Transport Force*)	1 light cruiser (flotilla leader)
	12 destroyers
	5 submarines
	Minesweepers, minelayers, submarine chasers
Fourth Fleet	3 light cruisers
(*Mandated Islands Fleet*)	1 light cruiser (flotilla leader)
	8 destroyers
	16 submarines
Fifth Fleet	3 cruisers
(*Northern Fleet*)	2 destroyers
Sixth Fleet	3 cruisers
(*Submarine Fleet*)	42 submarines
First Air Fleet	6 fleet aircraft carriers
	4 light carriers
	12 destroyers

The remaining submarines were under Kure Naval Station.

From these administrative fleets task forces were formed as requisite for tactical purposes. There were no marines, their place was taken by special naval landing forces.

Submarines

The most striking thing about the above organization is that the Commander-in-Chief kept under his own hand, in addition to the two most powerful battleships, two flotillas of submarines. This is a revealing commentary on Japanese submarine

doctrine, which held that the principal rôle of the ocean-going submarines was support of fleet operations. Submarines, termed the Advanced Force, were frequently an integral part of a surface task force, as for example in the attack on Pearl Harbour in December, 1941, and certain of the Solomon Islands' operations. Another rôle was the reconnaissance of harbours or bases from which forces might sortie and could be attacked, as at Midway in June, 1942; or ambushing, that is, moving submarines beforehand to the expected path of an enemy force, as in the Marianas operations in June, 1944. On account of their employment operationally with the fleet the type was characterized by high surface speed and light build. Since, however, it is impossible to build a submarine with a speed comparable to that of a surface warship the underwater craft was always at a disadvantage, and the very few successes were mostly fortuitous or achieved against a damaged ship such as the *Yorktown*, which *I*-168 sank after the Battle of Midway.

There existed in the Japanese Navy no separate submarine organization as in the British and United States Navies. Submarines were attached to various fleets, the Commanders-in-Chief being provided with a submarine liaison officer as adviser on submarine operations. The two main classes of submarines were the I and R, roughly over and under 1,000 tons respectively. The R class were used for patrols and for defensive purposes, the I class for fleet operations and patrols. Prior to the war the importance ascribed to midget submarines led to three ships being fitted to carry them to their objective and charge their batteries. The ships were, however, never used for the purpose, and instead certain I class submarines were fitted to carry midgets. It was in this way that the attacks on Diego Suarez and Sydney were carried out in the early part of the war. Suicide torpedoes (*Kaiten*), with a compartment for a man to steer them, were also carried on board submarines. Many submarines were provided with a hangar and carried a small aircraft for reconnaissance; and late in the war three submarines of more than 5,000 tons, with an endurance of some 37,000 miles at 14 knots, were built with three hangars for bombing aircraft, the intention being, apparently, to bomb Washington. This was typical of the manner in which the Japanese dissipated their slender resources uselessly, for these submarines could have had no possible effect on the course of the war.

Despite their preoccupation with the employment of their submarines for operational purposes with the fleet, the Japanese carried out some campaigns against Allied communications, particularly on the route from the United States to Australia and in the Indian Ocean, largely in consequence of German urging. The offensive in the Indian Ocean, where anti-submarine vessels and escorts were very short, was not mastered until March, 1944: it was persisted in partly because, on account of the above shortage, it was a safer area in which to operate than the Pacific. The offensives in the latter area were never more than very short-lived; but there is little doubt that if the Japanese had thrown every available submarine into an offensive against the American Central Pacific advance in November, 1943, they would completely have disrupted the logistic system employed, which depended upon the operation of fleet trains and the stationing of groups of oilers at ocean refuelling points. The Americans would then have been thrown back on to the system of laboriously constructing advanced bases and rolling them up in their rear (since even American resources could not run to idle installations). And, since speed was the essence of the Central Pacific advance, the campaign must have been fought differently and the Japanese would have gained that which they were continually striving for, namely time—time which was never more desperately needed than at that juncture

when they were re-forming the naval air groups which had been destroyed in the struggle to defend the Solomons and Bismarcks. It was the failure to gain a few precious months that cost them their fleet.

Another use for their submarines which was found by the Japanese was the supply of by-passed and beleaguered bases. It is difficult to obtain firm figures of the number of boats thus employed, and too much attention has perhaps been paid to it; but during the defence of the Marianas, regarded by the Japanese as vital, no less than one-third of the total submarine force was employed in the work of supplying bases not directly involved in the operation. The decision to employ submarines in this manner, which was apparently forced upon the Navy by the Army, was responsible for the trend of submarine development later in the war, which was a compromise of the transport and patrol types.

The low standard of Japanese technological research bore hardly on the submarine service in which efficient radar, sonar, and communication equipment were a necessity to the conduct with any hope of success of operations against the British and U.S. Navies, in which these inventions were so highly developed. It was a source of weakness that the Japanese Army and Navy carried out their own research independently of the civilian research workers. The continuous advance in Allied methods of detection and destruction was not only a deterrent to the audacity of individual Japanese submarine officers, but also influenced operational planning—*vide* the Indian Ocean. During an investigation into Japanese operations undertaken after the war the conviction grew that, in a Service whose bravery has never been questioned, the percentage of discreet submarine commanders was large. It was frankly impossible to believe that submarines could spend weeks on the U.S. West coast " without contacts," or spend more than 40 days running among the Solomons during the Guadalcanal campaign " without seeing any targets." Even the Japanese commanding officers could not disguise their embarrassment when recounting these tales. Further enlightenment is found in the extremely large number of times the target was " too far away to attack."[1]

It was the submarine commanders who were chiefly responsible for the atrocities committed by the Japanese Navy during the war.[2] Most of the naval atrocities occurred in the Indian Ocean, where the proportion of sinkings was high and the bully in the Japanese nature came to the surface. This writer knows of only one instance where operation orders by superior authority embodied specific instructions for the killing of all prisoners, civil and military, except those required for interrogation. This was in the little-known raid by the cruisers *Aoba* and *Tone* on the Indian Ocean trade routes in March, 1944, the orders for which were issued by Admiral Takasu. The raiders were sighted by a U.S. submarine, passing through Sunda Strait and the trade routes were at once cleared of shipping. Only one ship was sunk, all the passengers and crew being murdered on board the *Tone*, with the exception of sixteen persons.

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[1] *Ship and Related Targets, Japanese Submarine Operations.* U.S. Naval Technical Mission to Japan, p.9.

[2] The treatment of prisoners of war by the Japanese does not come within the scope of this article. The Japanese were realists and well aware that prisoners of war are valuable sources of information; and their regulations recognized that results produced by torture were unlikely to be reliable, though it was unhesitatingly employed as a last resort if it was thought likely to be successful.

The Japanese Torpedo

One of the unpleasant surprises of the war was the efficiency of the Japanese torpedo and the torpedo tactics of Japanese destroyers, the latter the result of intensive training. In the surface fleet the 24-inch, contact-firing, oxygen-fuelled torpedo was standard, influence firing or acoustic homing torpedoes not being employed. The weapon weighed two and a half tons or more, of which the explosive charge accounted for more than 1,000 lb., and it was remarkable for its speed and range, the Japanese claiming for the Type 93 Model I a speed of 49 knots with a range of 22,000 yards. This was perhaps a slight over-estimate, but there is considerable evidence to show that the torpedoes which hit the battleship *North Carolina* and the destroyer *O'Brien* on 15th September, 1942, were fired by the submarine *I*-19 from a distance of five to six miles and had a running time of six to seven minutes.

Japanese destroyers carried on deck a full load of torpedoes and gear for reloading their tubes. The speed with which they could reload in action gave them a great advantage. At the Battle of Kolombangara in July, 1943, a division of destroyers withdrew, reloaded in 18 minutes and reappeared; in the melée, the American radars gave no indication whether they were friend or foe, and almost the entire American cruiser force was hit and sunk or damaged.

Expenditure of torpedoes was heavy, partly the consequence of the importance of the weapon; though, secure in the knowledge of its great range and speed, ships were apt to fire from impossible positions. In the Battle of the Komandorski Islands in May, 1943, for example, the cruiser *Abukuma*—for cruisers were fitted with torpedo tubes—fired at a range of 36,000 yards. However, so many hits were made at long ranges that, until the middle of 1943 when the existence of the Type 93 torpedo became generally known in the American fleet, ships torpedoed by destroyers frequently believed themselves to have been the victims of submarines.

Gunnery

With such importance ascribed to the torpedo it was only natural that gunnery was unremarkable. Most of the gun battles of the war were night encounter battles which tended to degenerate into melées. Two engagements of the old-fashioned slogging type occurred between cruiser and destroyer forces during the war, undisturbed, or almost so, by aircraft interference. In both, the Japanese were in superior force. In the first, the Battle of the Java Sea in February, 1942, four Allied ships were sunk by torpedo (one perhaps by mine) and only one by gunfire. In the second, the Battle of the Komandorski Islands, no ship was sunk, though the battle went on for several hours. Incidentally, the chief reason of the Japanese admiral for breaking off the action was that he became disheartened by his apparent inability to damage his opponents, thus bearing out what has already been said of this facet of the Japanese character.

Anti-aircraft gunnery was poor, and was not aided by the predilection for stationing screening ships on a wide circle long after the Americans had discovered that the best defence was by a tight screen. Use of the main armament for A.A. defence was standard, and American attacking aircraft would sometimes be surprised by colossal explosions in the air long before they were near the target. At the Battle of the East China Sea in April, 1945, the U.S. strike aircraft reported being pursued by bursts from the *Yamato's* 18.1-inch guns for a distance of twelve to fifteen miles.

Night Fighting

The legend that the Japanese Navy was not good at night fighting was exploded at the Battle of Savo Island in August, 1942. This was not a complete test of Japanese eyes against American radar, since the radars were largely inoperative in the circumstances existing on that night. But in both the battles of July, 1943, in the Solomons (Kula Gulf and Kolombangara), the Japanese sighted the Americans before the U.S. radar found them, and the Japanese launched their torpedoes before the Americans opened fire with their guns. In the few prepared (by the Japanese) naval engagements which took place during the war such as Savo Island, Japanese tactical efficiency served them well; but in the night encounter battles, except for some brilliant destroyer work, their inability to operate without a cast-iron plan placed them at a disadvantage. Japanese warships were not fitted with radar until after the Battle of Midway in June, 1942. Equipping the fleet took a long time, and even as late as October, 1944, during the night Battle for Surigao Strait, Japanese radar was so ineffective that the battleships *Fuso* and *Yamashiro* were unable to return the radar-controlled fire of the American battleships and were overwhelmed without firing a shot at them.

Landing Craft and Ships

The Japanese Navy was the pioneer of landing craft. An officer who witnessed the landing at Tientsin in 1937 has told us that 400 landing craft (probably more than all the future Allied Navies together then possessed) and a 10,000 ton landing craft carrier were used. " Ingeniously, the carrier ejected landing craft two at a time out through her stern, while great ports in her side enabled vehicles or craft to be embarked and disembarked."[3] In Malaya, landing craft taken to pieces on the East coast were carried across land and assembled on the West coast, to cause confusion by landings in rear of our Army. That the Japanese never developed anything as efficient, each for its own purpose, as the LVT and the DUKW was due to the fact that after the first few months of the war their need for such amphibians had passed.

The Naval Air Service

From the outset of the war the Japanese employed their aircraft carriers as capital ships with an immensely extended striking range. At the beginning of the war the established strength of the Japanese Naval Air Force is believed to have been 1,737 aircraft, of which 660 were fighters, 330 shipboard torpedo aircraft and bombers, and 240 land torpedo aircraft and bombers. As result of experience in their first encounters with Japanese carriers the Americans drastically increased the proportion of their fighters. Japanese float reconnaissance aircraft and flying boats numbered 325, a criterion of the importance ascribed to shore-based air reconnaissance. There were two seaplane squadrons with a complement of some 70 seaplanes in all; and a rather larger number was attached directly to the Combined Fleet. The normal complements of the fleet carriers were about 63 aircraft (72 in the case of the *Zuikaku*), of which 27 were fighters and the remainder torpedo aircraft and bombers. The complements of the light carriers were 21 upwards.

The Japanese continually strove to increase the speed of dropping of their aircraft torpedoes and reduce the range of arming. Heights of drop were normally from 500 down to 100 feet, in a power glide, whilst bombs were dropped in dives down to 500 feet. Attacks were made out of the sun for choice. The superiority of

[3] *Assault from the Sea*, by Rear-Admiral L. E. H. Maund, C.B.E. (Retd.), p.5.

the Japanese naval fighter in speed, manœuvrability, and climb was another unpleasant surprise of the war, though this was compensated by the superior armament, the armour, and the leak-proof tanks of the Americans : lacking the last, the Japanese aircraft easily took fire. Production difficulties prevented the universal adoption of these tanks throughout the Japanese Naval Air Force.

The Japanese early adopted the theory that land-based air power should be an integral part of the naval establishment, and close co-operation between land and carrier-based air forces played a large part in their early successes. The bulk of the fighting strength of the shore-based naval air forces was contained in the 11th Air Fleet, two of whose three flotillas, with a total of 270 I.E. aircraft and about 80 in reserve, were based in Formosa, with detachments at Palau, the Marshall Islands, and Indo China. The last was the base of the remaining flotilla of 105 I.E. aircraft and 30 in reserve.

The carrier pilots were the cream of the Japanese Naval Air Force. Aggressive and resourceful, they flew their aircraft with skill and daring. Their peace-time training was thorough and compared well with that given to Allied pilots. Many of them had gained experience in operations in China. This fine corps was soon destroyed. During the first two years of war some 3,800 Japanese naval aircraft were destroyed in combat and 4,500 operationally. The destruction of the carrier air groups was completed by basing them on shore for the defence of the Solomons and Bismarcks, and in the absence of a real reserve of pilots the training organization was unable to make good losses. Whilst thousands of aircraft could be built (it is estimated that 14,161 were produced for the Japanese Navy in the peak year, 1944) only hundreds could be maintained and only scores could be manned by efficient pilots. Flying experience decreased from 700 hours in the first half of June, 1942 (Battle of Midway), to 400 hours in June, 1944 (Battle of the Marianas), and to no more than 100 hours at the end of the war.

Suicide Operating

The later stages of the war saw the introduction of suicide attacks by the Japanese air forces. The Japanese were predisposed to suicide tactics with weapons such as *Kaiten* (human torpedoes), crash boats, limpeteers, midget submarines, and the like. They were of the opinion that they failed to take full advantage of the national docility and readiness for self-immolation and that they failed to pay sufficient attention to such weapons. But for all the success they achieved other than by suicide aircraft they might have spared themselves the waste of effort and material involved. Their lack of success was primarily due to bad intelligence. On three occasions midget submarines managed to enter Allied harbours after being transported, on one occasion right across the Indian Ocean, only to find, on two occasions at least, no ship of any great value in the harbour.

Suicide air operating was on a different footing and was able under favourable circumstances to cause enormous damage. Known as *Kamikaze* (Divine Wind), this type of attack, in which the pilot directed his aircraft, with bomb lashed to it, to hit the target ship, made a spontaneous appearance amongst pilots of the Japanese Naval Air Force in the Summer of 1944. It was later officially recognized and training was undertaken ; and the final stage of the war witnessed the greater part of the air forces in process of conversion to suicide aircraft for the defence of the home islands against invasion. Its first concerted employment was in October, 1944, when the Americans assaulted the Philippines, though it was not until the attack on

Okinawa six months later that it was employed on an extensive scale. The circumstances were favourable, for the ships of the United States Fifth/Third and the British Pacific Fleet had to remain immobile, acting as floating batteries for the protection of the invasion shipping. In the course of less than three months more than 300 ships were sunk or damaged by suicide air attack; and though sinkings were confined to light craft and auxiliaries, the vessels put out of action included several American aircraft carriers. On the other hand, the armoured decks of the British carriers gave them adequate protection, and every carrier, though hit at least once, remained in operation. From the Japanese point of view *Kamikaze* had the advantage of enabling the half-trained pilots of the war's end, and almost any type of aircraft that could get into the air, to be used. A fighter or a trainer aircraft with a bomb lashed to it made an adequate suicide bomber. The disadvantages were the vulnerability of the aircraft during its dive and the ineffectiveness of the bomb against all but the most lightly built ships, due to its small penetrating power. Moreover, complete training could not be undertaken, since the attack if carried through to the end entailed destruction of aircraft and pilot. It was a wasting asset and a policy of despair.

COMBINED OPERATIONS, 1939-1945

By Rear-Admiral H. E. Horan, C.B., D.S.C.

THE object of this article is to put before the reader in a concise form how combined operations were studied, built up, and executed during the 1939–45 War.

The technique used, and the design of ships, craft, and special appliances were matters in which Combined Operations Headquarters played an exceptional role. But perhaps the greatest achievement of that body was the way in which all three fighting Services, and eventually those of our Allies, were brought together under one roof as an integrated staff. This made possible co-ordinated planning and the adoption of a common doctrine, neither of which existed at the outbreak of war.

Space does not permit of every achievement being dealt with. But readers of Mr. Winston Churchill's work, *The Second World War*, will find many references to the part played therein by the Combined Operations Command.

Lessons from the Past

History teaches us that the nation which has the power to control sea communications is thereby enabled to launch amphibious expeditions when and where it seems most expedient from the strategical point of view. Great Britain used this form of warfare extensively in the development of the British Commonwealth and Empire. It was an axiom that these overseas operations took the form of landings where the enemy was weakest and thus forced him to reinforce the threatened spot or spots which, in its turn, brought about a dispersal of his forces.

The outstanding example in the 1914–18 War was the landing at the Dardanelles in 1915. The object of this operation was to turn the enemy's flank by getting in by 'the back door,' and at the same time to bring help to the Russian armies which were fighting on the eastern front.

This operation failed, first because the principle of surprise was forfeited, and secondly because the forces used for the expedition were hastily thrown together and had no training in the art of amphibious warfare. The impression left on the minds of all those who witnessed the landing at Cape Helles was that the fire power of modern small arms on personnel landing on a defended beach was so devastating as to make an opposed landing not an operation of war.

Between the Wars

Between the two world wars the study of the art of combined operations was confined to a yearly paper exercise in which the students of the three Service staff colleges took part. As the result of the deliberations at these colleges, a *Manual of Combined Operations* was published in 1925 and superseded the four paragraphs in the 1914 reprint of the *Field Service Regulations* which, up to date, contained the only reference in any official publication to combined operations. Further editions of this manual were published in 1931 and 1938. The manual dealt with things as they were and did not envisage new appliances, craft, or technique.

Early in 1936, the director of the Royal Naval Staff College wrote a memorandum on the subject of combined operations. He pointed out that the Navy bore the chief responsibility for any amphibious expedition and strongly advocated the setting up of a permament committee to study the question of

training and the provision of suitable ships, craft, and appliances in order to compete with the requirements of modern war.

He went on to say that it would be necessary to set up a training and development centre, whose functions would be to study the technique required for an opposed landing.

Towards the end of 1937, the Deputy Chiefs of Staff Committee took action and began to consider the question of setting up an inter-Service establishment of this nature.

While these deliberations were going on, the Commander-in-Chief, China, reported that the Japanese were using specially designed ships and craft in their amphibious operations against the Chinese. This no doubt spurred on action and we find the centre being approved and officers from each Service being appointed. These found that the accepted method of landing troops on an enemy beach was that used throughout the ages, namely by open boats with muffled oars in the dead of night.

This state of affairs shows how little attention had been given to this form of warfare and the deplorable way in which one way of using sea power in war had been grievously neglected. However, the staff of the Inter-Service Training and Development Centre got busy and produced valuable suggestions for the future, though, by the Summer of 1939, none of their suggestions had taken concrete form. In fact, when war broke out there were only nine motor landing craft actually built.

Outbreak of War

On the outbreak of war, the naval and air force members of the I.S.T.D.C. staff were appointed away but the military member was allowed to stay on, mainly on the grounds that there was no other job available for him. This state of affairs was rectified in December, 1939, when the centre was resuscitated.

The first amphibious operations of the war took place in April, 1940, when forces were landed in Norway in an attempt to forestall the Germans in the Narvik area. The expedition sent was once again hastily assembled and quite untrained. It was finally driven out by the advancing Germans in June. The few special landing craft available at this time were either lost on this expedition or at the evacuation of the British Expeditionary Force from Dunkirk. Combined operations therefore started from scratch, from the point of view of both personnel and material.

Director of Combined Operations

With the withdrawal of the forces from Norway and France, the Germans had the whole West coast of Europe from North Cape to the Pyrenees in their hands. To obtain a re-entry into the Continent meant that some kind of combined operation was necessary. In order to make use of sea power to bring pressure on the enemy land forces as soon as possible, it was clear that a policy of amphibious raids must be instituted.

Accordingly, we find the Chiefs of Staff approving a Commander of Raiding Operations. Lieut.-General A. C. G. Bourne was appointed to fill this post on 14th June, 1940, and he combined this duty with that of Adjutant-General, Royal Marines. His staff consisted of three captains R. N. and an Army representative. His headquarters were in the Admiralty.

On 17th July, 1940, the Prime Minister appointed Admiral of the Fleet Sir Roger Keyes as Director of Combined Operations. In his note on this appointment the Prime Minister stated " that owing to the large scope now to be given to these operations, it is essential to have an officer of a higher rank in charge."

Admiral Keyes, on having his staff increased, moved his offices to Richmond Terrace which remained from then until the end of the war the headquarters for combined operations. Here Admiral Keyes set up an inter-Service staff, including Major-General J. S. Drew, and thus got away from the idea that combined operations was merely a Directorate in the Admiralty.

Realizing that the first thing to do was to train the officers and men of all Services in the art of amphibious warfare, the D.C.O. set about establishing training centres round the coast. The chief of these was situated at Inveraray, on Loch Fyne.

The material side of the organization was in the hands of the Admiralty. Acting on the suggestions of the I.S.T.D.C., several ships were taken up and altered to carry landing craft of different types. Thus, by the end of 1940, both the training of the personnel and the provision of the necessary ships and craft were getting under way.

In August, 1940, the abortive operation against Dakar was mounted. Once again a force had been hastily assembled and had been sent without training or proper equipment. The principal lesson learned here was the necessity for a properly fitted headquarters ship where the commanders and their staffs could be accommodated and from which they could direct operations during the landing. This expedition was mounted by the Service departments with little or no reference to the D.C.O.

The First Raid

By the beginning of 1941, two Dutch cross-channel steamers had been converted to carry landing craft and had been commissioned. The D.C.O. and his staff had come to the conclusion that a raid could be attempted. The first raid was therefore staged. It took the form of an operation against the German-occupied Lofoten Islands, and the object was " to destroy the fish-oil plants, to arrest Germans and ' Quisling ' Norwegians, and to evacuate recruits for the Norwegian Navy."

The objects were attained without loss and thus confidence was established among all those who had a part to play. The troops landed were from the Independent Companies (later known as Commandos) which had been placed under the command of the D.C.O. and trained by his organization.

During the Spring and Summer of 1941, no further operations were possible owing to the fact that all combined operations training facilities were at full stretch training troops from the army formations who were earmarked for expeditions that were never carried out. But, during this time, the command of the I.S.T.D.C. was vested in the D.C.O. and the Admiralty set up two deputy directorships, one to deal with the organization and personnel, and the other with the material side of combined operations.

Adviser on Combined Operations

In October, 1941, Admiral Keyes was succeeded by Commodore Lord Louis Mountbatten who was at the outset given the title of Adviser on Combined Operations. The directive issued to him laid stress on the fact that his main duty was to advise the commanders of expeditions on the technical details of amphibious warfare, but

he was still to retain the same commands as his predecessor. When exercising his command functions he was to be known as the Commodore, Combined Operations (C.C.O.).

During the month of November, 1941, it became clear that the projected increase in combined operations ships, craft, and personnel called for a central authority around which all combined operational activity could be focused. Accordingly, the C.C.O. was given an operational staff whose duty was to assist him in the command and to plan for raiding and other operations, while he was instructed to set up an administrative authority which could deal with the day-to-day business of the personnel, bases, ships, and craft in the command. Previously this latter duty had been carried out by the Admiralty.

The Re-entry into the Continent

In his capacity as Adviser on Combined Operations, Commodore Mountbatten at once began to investigate the problem of the re-entry into the Continent. This was the ultimate object of all the work of the staff at C.O.H.Q., and to which all training and preparation must eventually lead.

A cursory examination soon made it clear that this problem was one in which great efforts in preparation and organization would have to be undertaken and that these must start at once. In fact, the whole coast of England from the Wash to the Bristol Channel would have to be got ready as a spring-board from which the liberation forces could take-off.

The results of the first investigations made by the staff of C.O.H.Q. were laid before the Chiefs of Staff by the C.C.O. at the beginning of March, 1942, in a paper entitled " Preparations for future Operations in Northern France." This paper can be taken as the first real attempt to get the measure of the problem of the re-entry into the Continent. All the proposals were agreed to and the necessary work was put in hand.

Raiding Operations

It is convenient here to deal with three raids which were planned and executed by the C.C.O. under his directive as the executive authority for these operations.

The first of these was on the port of Vaagso on the Norwegian coast. Here the main object was the destruction of enemy shipping which might be found using the Inner Lead—the passage inside the islands—along the coast.

This raid resulted in the destruction of some 16,000 tons gross, besides accounting for the entire garrison of the port and its defences. The technique used was novel, but showed that the training was on the right lines and the whole operation clearly proved that, with careful planning, the co-operation between the Services was excellent.

This was followed in February by a raid on a radio-location station at Bruneval, just North of Le Havre. In their search for targets for their raids, the intelligence section at C.O.H.Q. located this station and plans were prepared. The object entailed the employment of parachute troops and accordingly the staff of that division was closely associated with the C.O.H.Q. planners. The success of the operation was complete in that the entire radio-location installation was delivered in London less than 12 hours after the parachute troops had been dropped.

In the following month it was decided by the Chiefs of Staff that the large lock at St. Nazaire should be rendered unserviceable. The reason for this was that it

was the only place where a German capital ship could be docked outside Germany. The object was attained by naval forces assisted by No. 2 Commando.

The three raids showed clearly that the organization at C.O.H.Q. could produce results and that the technique evolved there, and taught in the combined training establishments, was on the right lines. Above all, confidence in the command was being built up and the morale of the combined operations personnel raised to a high level.

Perhaps all this came about by the fact that the C.C.O. dinned into his staff that their job was to think about nothing but the offensive. It was about this time that the staff at C.O.H.Q. came to be known as ' The Crazy Gang.'

Operation " Ironclad "

Besides the raiding activities mentioned above, an overseas expedition was mounted with the resources at the disposal of the C.C.O. Late in February, 1942, it was decided that the capture of the port of Diego Suarez in Madagascar was necessary from the point of view of the security of the sea communications in the Indian Ocean. This had to be a combined operation, as the Vichy French had quite a strong military force in the island and the port was defended. Further, the landings had to take place in the first week in May to take advantage of the favourable moon and tide period about that date.

When the execution of this operation was approved by the Chiefs of Staff, the 29th Infantry Brigade was due to carry out a combined exercise at Inverary and was embarked in the available ships of the assault force at the Tail of the Bank. So it was decided to use this force for operation " Ironclad," No. 5 Commando being included in the force. It sailed from the Clyde on 23rd March, less than three weeks after the decision to sail was made.

This operation was originally discussed late in December, 1941, and it was estimated that it would take a period of at least 90 days from the initial orders before the assault could take place. Actually, the interval was brought down to 52 days, thanks to the state of readiness of the forces in the Combined Operations Command.

Chief of Combined Operations

On the same day that Commodore Mountbatten presented his report—" Preparations for Future Operations in Northern France "—to the Chiefs of Staff, his title was changed to that of Chief of Combined Operations and he was given the acting ranks of Vice-Admiral, Lieutenant-General, and Air Marshal. Further, he became a full member of the Chiefs of Staff Committee. This action clearly showed the importance attached to all that appertained to combined operations.

On becoming a full member of the Chiefs of Staff Committee, Admiral Mountbatten found that he was at a disadvantage in that he was unable to inject any combined operations ideas into the papers produced by the Joint Planners for the consideration of the Chiefs of Staff. He therefore set up within C.O.H.Q. a special offshoot of the planning section known as the Combined Operations Joint Planner. The latter was always present after this time at all meetings of the Joint Planning Committee when they were considering anything to do with combined operations. This arrangement worked very well as the C.O.J.P. saw all papers destined for the Chiefs of Staff at their formative stage, and thus the influence of C.O.H.Q. on the conduct of the war was greatly increased. It also reduced friction and disagreement at the highest level.

The great scale of the preparations necessary for the re-entry into the Continent, was now clearly apparent. Not only the Service ministries, but many others would have to play a part. For the preliminary work the questions of the provision of raw materials and labour, both skilled and unskilled, would all have to be studied and allowed for in the allocation of both to the forces and production. Accordingly, the C.C.O. obtained the approval of the Chiefs of Staff to have Brigadier Sir Harold Wernher appointed to his staff with the title of Co-ordinator of Ministry and Service Facilities (C.M.S.F.). His role was to bring together the authorities involved in any project and, having explained the matter to them, to co-ordinate and follow the progress of the work.

Operation "Sledgehammer"

While all this preparation and expansion was taking place, the Chiefs of Staff ordered an examination of an operation which was to be undertaken during the Summer. This operation ("Sledgehammer") envisaged a landing in force on the coast of France with a view to relieving pressure on the Russian armies.

This was exactly the type of operation that the American Chiefs of Staff had in mind. It was quite clear at the time that they were not conversant with the difficulties of doing an operation of this sort without properly trained forces equipped with all the latest material. Strong differences of opinion arose and the C.C.O. was sent to the U.S.A. to explain matters.

Mr. Harry Hopkins, accompanied by General Marshall, U.S. Army Chief of Staff, visited London in April, 1942, and it was during this visit that the latter inspected C.O.H.Q. He was so pleased with what he saw there that he agreed to send American officers of all three Services to serve on the staff. Thus it came about that the first integrated, inter-Service, inter-Allied, staff came into being.

To return for a moment to "Sledgehammer," this operation, as at first planned, required all the serviceable landing craft and trained crews available in the United Kingdom. These were at the time concentrated in the Clyde area and the first consideration was to get them to the South coast. The various expedients used to do this would make a story on its own. Suffice it to say, towards the end of June this concentration was effected, but only at the expense of both naval and combined training.

The Dieppe Raid

As the planning for "Sledgehammer" proceeded, it became quite clear to the C.C.O. that this operation was going to be launched by forces with no experience in attacking strong enemy defences. In addition, the Commander-in-Chief, Home Forces, and his senior generals stated that a raid on a large scale must be launched against the coast of France to test the defences, and the means to overcome them, before any attempt was made to re-enter the Continent.

Accordingly, the planning staff at C.O.H.Q. suggested Dieppe as a suitable objective. Intelligence showed that the town was not very heavily defended, but to make a good job of the operation a considerable force, consisting of six battalions and including tanks, would be required. This was exactly the force that the Army authorities desired for a trial on a large scale.

The plan proposed by C.O.H.Q. was for landings to be made to the East and West of the town, the troops and tanks, after a sweep inland, re-embarking from the harbour, thus taking the defences of the town in the rear. The Army, on the other

hand, was bent on a frontal assault because of the obstacles produced by the rivers in the hinterland, which they thought would interfere with the movements of the tanks.

In the end the army view carried the day and a frontal assault was attempted. In spite of the very great gallantry displayed by the Canadian Division which carried out the assault, no real penetration into the town was achieved. This was due to the fire the enemy were able to bring to bear on the beaches and the formidable obstacles encountered by the tanks.

The chief lesson confirmed at Dieppe was the necessity for overwhelming support fire from the sea under which the first waves of troops and tanks could land.

Actually, before this operation, Colonel H. Langley, one of the experimental staff at C.O.H.Q., had been working on a project for using explosive rockets for exactly this form of fire. This idea was vigorously pursued and resulted in the conversion of certain of the Landing Craft, Tank (L.C.T.) to carry 1,000 rockets each and fire them if desired in one or more salvoes. These craft, known as L.C.T.(R), proved their worth in all operations undertaken after this date.

In addition, other Landing Craft, Tank, were converted to carry guns up to 4.7 inch, and these proved a very economical way of producing direct fire at close range over the beaches.

Change in Strategy

Towards the end of July a great change in the strategy of the war took place. It may have been the arguments advanced by the C.C.O. against the dangers of " Sledgehammer " that tipped the scale but, at any rate, it was decided that a landing in France in 1942 was not to be attempted and, instead, an overseas expedition was to be organized to land in Morocco. Driving East, the forces landed there were to join hands with the Eighth Army advancing from Egypt.

This expedition would require all the available landing craft in England and would have to be mounted from the West coast and Scottish ports. The first thing to be done was to get all the craft from the South to the ports of embarkation. This was accomplished with but little time to spare. Again, all combined training had to be stopped to give training to the American troops who were to be carried from England. On top of all this, the C.C.O. was ordered to give up the combined operations base at Rosneath to the Americans for the mounting of their forces.

So much for the training and administrative sides. The planners were in great demand. They were nearly all lent by the C.C.O. either to General Eisenhower's staff or to the U.S.A., to assist the authorities there in planning and training. Thus it came about that the staff of C.O.H.Q. were closely associated with this operation from the start.

At the beginning of August, the ships destined for this expedition were, for the most part, carrying out their normal trading activities on the high seas. As they were taken up and came in hand for necessary alterations, they came under the Senior Officer Assault Ships and Craft (Commodore G. L. Warren)—an officer in the Combined Operations Command. The good work done by this officer and his staff resulted in all the ships being fully equipped and ready to sail on the date ordered, the last week in October. There were 67 ships and 408 craft used in the operation.

With the expedition sailed two specially fitted headquarters ships. These had been fitted out to specifications prepared by the Signal Section at C.O.H.Q. and were the first of their kind. They were most successful.

It is on record that when General Patton, who was to command the American forces at the Casablanca landing, visited C.O.H.Q. prior to the operation, he was advised by the C.C.O. to ask for a ship such as these. He elected, however, to go with the Admiral in the latter's flagship. At a critical time in the landing he found himself carried off in the pursuit of some French ships who were disputing the right of the American forces to land.

Implications of the North African Landings

The mounting of the North African expedition, Operation " Torch," put a severe strain on the resources of the Combined Operations Command. Before the expedition sailed the C.C.O. represented to the Chiefs of Staff that this change in strategy meant the postponement of the re-entry into the Continent until 1944.

However, with the resources remaining available after the expedition sailed, the formation of a raiding force was undertaken. This came to be known as Force " J " and was the prototype of the naval assault forces which took part in the Normandy landings.

Operation " Overlord "

After the " Torch " expeditions sailed, attention reverted to the re-entry into the Continent, which had now come to be known as Operation " Overlord." The opinion held at C.O.H.Q. was that this should take place in the Baie de la Seine. The chief reasons for this were that the Cotentin Peninsula provided some shelter from the prevailing winds, the road and rail communications in the hinterland ran parallel to the coast and thus militated against the rapid concentration of re-inforcements, and, finally, a landing there enabled a break-out to be made either to the East or West, with the promise in the latter case of capturing the French West coast ports. Unfortunately, the Baie de la Seine was out of range of our fighter aircraft. All thought had, therefore, been centred on the Pas de Calais, which came under the fighter umbrella although, of course, very heavily defended.

One of the scientists at C.O.H.Q., Mr. Pyke, produced a project for the construction of a floating airfield constructed of re-inforced ice. The properties of this material were demonstrated to the Prime Minister by the C.C.O. Mr. Churchill was interested, as it was evident that this might solve the problem of the fighter cover for the landings. The project, known as " Habbakuk," was actually taken in hand, but before it came to anything the range of fighter aircraft was increased and it was abandoned.

Another problem that came in for considerable thought was how to reinforce and supply a large army landed on the shores of France. To attempt to do so over open beaches was out of the question, and it was fully realized that it would be some time before a port could be captured and made efficient.

Early in 1942, we find C.O.H.Q. investigating the provision of a ' bubble breakwater '—a Russian project—the principle of which was to run pipes on the bottom of the sea and pump compressed air through them. It was claimed that this would break down the swell. However, this was abandoned in favour of artificial harbours.

In his book *Crusade in Europe* General Eisenhower makes the following statement:—

> " The first time I heard this idea [artificial harbours] advanced by Admiral Mountbatten was in the Spring of 1942. At a conference attended by a number

of Service chiefs he remarked, 'If ports are not available we have to construct them in pieces and tow them in.' Hoots and jeers greeted his suggestion but two years later it was to become a reality."

Another idea which took shape was the laying of a pipe-line from England to France, through which could be pumped the great quantities of petrol required by the Army when it was landed. Experiments were carried out in conjunction with the Petroleum Warfare Department during the latter part of the year, and out of these came "Pluto" (Pipe-Line Under The Ocean) which eventually ensured a supply of a million gallons a day to the forces in the field.

Re-organization

In the Autumn of 1942, the rapid and phenomenal increase in the Combined Operations Command caused the First Sea Lord to appont a committee to report on the best way to re-absorb the functions carried out by the administrative section of the C.O.H.Q. staff into the Admiralty. The recommendations of this committee resulted, during the early part of 1943, in the formation of the following new Admiralty departments:—

Combined Operations (Personnel)

Combined Operations (Material)

Operations Division (Combined Operations)

Requirements and Organization (Combined Operations) (later Combined Operations Division).

During the same period the C.O.H.Q. staff began to be re-organized gradually on a functional basis as suggested by a committee presided over by the Deputy Chief of the Air Staff. This re-organization did not become complete until Admiral Mountbatten left in October, 1943, to take up his appointment as Supreme Allied Commander, South East Asia.

Casablanca Conference

In January, 1943, the Prime Minister and President Roosevelt met at Casablanca with their staffs to decide on the strategy to be pursued during that year. Here two decisions which involved the Combined Operations Command were taken:—

(*a*) That after the defeat of the enemy forces in North Africa, Sicily was to be the next objective.

(*b*) A Chief of Staff to the Supreme Allied Commander (C.O.S.S.A.C.) was to be appointed and given the task of preparing the plans for the re-entry into the Continent.

The first of these meant that a large proportion of the planning and training staffs at C.O.H.Q. were lent to the commands in North Africa, where they formed part of the integrated inter-Allied staff of General Eisenhower.

When the Chief of Staff to the Supreme Allied Commander took up his appointment, there were two schools of thought as to the best place to choose for the initial landings in France, viz:—the Pas de Calais or the Baie de la Seine. Gradually the Baie de la Seine found favour for the reasons advanced in the first place by the C.C.O. and the planning accordingly started.

Conference " Rattle "

The C.C.O. fully realized the difficulties which C.O.S.S.A.C. would encounter and, to give him all the help possible from the Combined Operations Command, organized a conference (" Rattle ") at Largs, where a study period was held towards the end of June. This was given over to the consideration of the many problems confronting those responsible for the landings in France. The strategical aspects were not considered, but many recommendations were agreed on. Perhaps the most notable of these was the provision of artificial harbours, of " Pluto," and of ships for support fire.

During the course of this conference, the ships carrying the 1st Canadian Division left the Clyde, where they had been fitted out and the personnel trained under the Combined Operations Command for their part in the conquest of Sicily.

Quebec Conference

Closely following on the study period at Largs we find the Quebec Conference taking place. Here the decision was taken to put in hand the artificial harbours, later known as " Mulberries." The work of co-ordinating this great effort fell on Major-General Sir Harold Wernher (C.M.S.F.) who has been mentioned before.

The " Mulberries " consisted of the following :—

An outer breakwater of floating steel structures (" Bombardon ").

An inner main breakwater of concrete caissons (" Phoenix ").

A breakwater consisting of sunken ships in shallow water (" Gooseberry ").

Inside the harbour thus formed were moored a number of Spud Piers (" Whale "). These were connected to the shore by flexible floating roadways.

The whole installation, when in place, was supposed to be capable of handling 6,000 tons of stores a day from ships and craft working in sheltered waters. Actually, this rate of discharge was doubled when things got going properly. In the construction of these harbours, of which two were built, 120,000 tons of steel and 865,000 tons of concrete were used.

Other Activities

The latter half of the year 1943 saw the landings in Sicily and at Salerno taking place. In these the Combined Operations Command took various parts, such as providing training personnel, surveying beaches, improving and devising material, etc. But perhaps the most important activity was the establishment at Largs of an inter-Allied, inter-Service, staff college where courses were held attended by officers of the rank of major and above. Here, the latest developments were explained and demonstrated at the various combined training centres in the vicinity. These courses started in August, 1943, and the final course was held in April, 1944, by which time 1,700 officers had been indoctrinated.

Before he left C.O.H.Q., Admiral Mountbatten obtained approval from the Chiefs of Staff for the breaking up of the Royal Marine Division and using the personnel thus released for the formation of Royal Marine Commandos and Landing Craft crews. Thus the Royal Marines were once again fulfilling their historic role.

The Functional Organization

When Major-General R. E. Laycock became the C.C.O. in November, 1943, he received a new directive. A study of this shows that the C.O.H.Q. was now organized on a functional basis. Emphasis was laid on the advisory and experimental side of

the organization, although the control of the training establishments and of Special Service troops was still vested in the C.C.O. The mounting of expeditions, as far as the ships and craft were concerned, had now been taken over again by the Admiralty. It is, however, only right to add that the organization of the Beach Groups for service in the Pacific, and the fitting out of Fighter Direction Ships were entirely carried out by the staff of C.O.H.Q.

It was at the beginning of 1944 that C.O.H.Q. developed the technique of beach reconnaissance by midget submarines. The actual work in this instance was done by the combined operations pilotage parties and greatly contributed to the success of the landings on D-Day. Not only were the beaches reconnoitered in daylight, but parties were landed at night and beach slopes and surfaces were thus reliably ascertained.

Combined Operations in Other Theatres

The organization adopted by Admiral Mountbatten for C.O.H.Q. was used in other theatres of operations. First there was the Combined Training Establishment at Kabret in the Suez Canal zone, and this was followed by similar establishments along the North coast of Africa prior to the landings in Sicily and Italy. The South East Asia Command developed an exact counterpart to C.O.H.Q., and this staff was responsible for the planning of all amphibious operations in that area and for the development of special technique for the jungle and tropical conditions.

Conclusion

Records show that on D-Day in Normandy the personnel employed in the Royal Navy in combined operational duties amounted to over 66,000 officers and men. All these had been trained in the establishments in the Combined Operations Command. As an example of the success of this training programme, the establishment at Lochailort for officers used to take candidates from the lower deck and, after a six weeks' course, the successful ones often found themselves as first lieutenants of an L.C.T. directly they passed out. In another two months they were in command. These officers actually steamed their craft out to the Mediterranean and, on the completion of the operations there, brought them back. The only losses of craft were due to bad weather.

It has been said that the whole organization of C.O.H.Q. was a masterpiece of improvisation, imagination, and initiative. History clearly shows that whatever was undertaken was brought to a successful conclusion, whether it was the design of ships and craft, the provision of appliances not heard of before the war, or the development of technique.

It is fitting here to put on record the telegram sent to Admiral Mountbatten when, shortly after D-Day, the signatories visited the beaches in the Baie de la Seine. It reads as follows :—

> " Today we visited the British and American Armies on the soil of France. We sailed through the vast fleets of ships with landing craft of many types pouring more and more men, vehicles, and stores ashore. We saw clearly the manœuvre in process of rapid development. We have shared our secrets in common and helped each other all we could. We wish to tell you at this moment in your arduous campaign that we realize that much of this remarkable technique and therefore the success of the venture has its origin in developments effected by you and your staff of Combined Operations."
>
> (Signed) Arnold, Brooke, Churchill, King, Marshall, Smuts.

RESETTLEMENT IN THE CIVIL SERVICE

By Lieut.-Colonel Frederic Evans, M.B.E., T.D., M.A.(Cantab.)

ONE of the major concerns of all ranks when their periods of service, whether long or short, are coming to an end, is resettlement into suitable and congenial employment in civil life. With foresight, members of the Services can, to a large extent, prepare themselves with this eventuality in mind. This article discusses briefly the opportunities in the Civil Service for suitable applicants.

Variety of Appointments

The Civil Service covers a wide variety of appointments. For suitable university graduates there are posts in the administrative class of the Home Civil Service and in the senior branch of the Foreign Service; these key positions are relatively few in number. Other openings for graduates occur in the special departmental classes, which include H.M. Inspectors of Taxes, in the Inland Revenue, and senior posts in the Ministry of Labour and National Service. For all these posts there are certain relaxations of the upper age limit in favour of candidates who have served in the forces; and provision is made for Regulars without a university degree to be considered, if otherwise eligible and if they are recommended by the Service authorities. Graduates will find particulars and descriptions of these and other posts open to them in a booklet, *Posts in the Civil Service for University Graduates*, published by H.M. Stationery Office at two shillings.

Recruitment takes place from time to time by competitive interview for professional and technical posts for doctors, lawyers, accountants, librarians, and so on, as well as for scientists and engineers, about whom further details will be given later in this article.

Apart from the normal method of entry into the Civil Service, there is a proportion of entries reserved for Service men alone. In this way the Civil Service is doing what all employers are urged to do, and that is to make more possible the instatement of members of H.M. Forces, especially of those with long Regular service, in civil employment. Information about this particular scheme and about other openings in the Civil Service is bound to be of interest to serving men of all kinds. It is better that this article should give advice of a general kind and leave out a great deal of the actual detail (which will change as to dates and possibly other conditions from year to year). Its purpose is to get Service men, whether still in or just out of the forces, to investigate the undoubtedly attractive possibilities there are for them in the Civil Service.

Executive and Clerical Classes

Other classes in the Civil Service, much larger in numbers than those mentioned above, are the executive and clerical classes. Full particulars and descriptions of the type of work are given in a booklet published by H.M. Stationery Office at 1s. 3d., called *The Civil Service Executive and Clerical Officers* (number 32 in the Choice of Careers series). Those interested in junior clerical and technical posts should read the companion booklet (number 31 in the series) called *The Civil Service—Openings for Juniors.*

Normally, there are two grades into which Service men are, *by a special entry for them*, taken into the Civil Service—the clerical classes (from which normal, possible promotion is into the executive class) and the executive class. For these openings,

Regular and National Service entrants are dealt with separately. For the clerical entry, 10 per cent. of the vacancies are reserved for ex-Regulars and 10 per cent. for National Service applicants (if enough prove suitable in both instances). For the executive entry, 15 per cent. are reserved for ex-Regulars and 10 per cent. for National Service applicants, again subject to their proving suitable.

The suitability of candidates for these entries is decided by competitive examinations for the special Service entries held annually at a wide range of convenient centres. In the case of the clerical classes, the appointments are made on the basis of the examination alone. Entry for appointment to the executive classes is also by examination at first, followed by the interviewing of those who qualify in the written tests by a board representative of the Civil Service generally, and of the departments concerned when certain special qualities are looked for. Some of the members of the board interviewing ex-Service candidates are Service men themselves, with experience and qualifications suitable for such selection work. The appointments to the executive classes are then made on the basis of the marks obtained in the written tests and at the interview.

The purpose of the interview is to ascertain qualities rather than qualifications. The interviewing board will look for a good Service record wherein the candidate has sought to keep himself abreast of the times and has maintained an active interest in the affairs and activities of his unit or formation, has acquired a knowledge of current events, and has profited from the many opportunities for self-development which the Services provide. The board will look for integrity of purpose, congenial personalities, and a sense of real service to the community. The members of the board will be concerned with the personal interests of the candidate, whether these be academic, physical, or practical in character. They will welcome evidence of a sense of responsibility and urgency, and of an ability to meet difficulties in a confident and competent manner, as well as the candidate's quality of being able to apply himself to those duties which an executive officer has to carry out in a more comprehensive manner than a clerical officer. A candidate for the executive branch will need to have ability to organize the work of others and to supervise the duties of those in his direct charge.

Perhaps the best advice to give a Regular or a National Service man who wishes to consider the work of an executive officer or of a clerical officer in the Civil Service as a career is that he (or she) should write to the Civil Service Commission, Burlington Gardens, London, W.1, stating the class aimed for—both may be entered for—and asking for the printed conspectus applicable to himself and for the kind of appointment for which he feels he is qualified. Although members of the Civil Service are to-day much less restricted to their branches than they were, as far as the movement of personnel round the various parts of a department is concerned, still, certain departments are bound to require rather special qualities and qualifications. For example, the Foreign Service requires an ability to learn, or indeed an actual competence in, a modern language. Here also a readiness to serve overseas, an interest in foreign peoples, and a personality that will do credit to Britain abroad are of obvious importance.

In the executive class there is provision for the expression of a preference between departments and a successful candidate will have a certain amount of choice if he (or she) qualifies for the work concerned. Candidates at the interview often make the request to be allowed to change the order of their choice; they may be asked to

explain the reasons for their choice, but they may be assured that their wishes will receive very sympathetic consideration and that the wide experience of the members of the board will be freely at their disposal. It will be important to find out when applications to sit the various examinations should be sent in by those serving or who have served in the Regular and National Service forces. Aspirants to particular appointments should lose no time in finding out this information and the date of the appropriate examination as soon as possible, so as to avoid the chance of a long wait before the next competition comes along. They should state in their letter the kind of appointment they wish to seek.

The first step, obviously, is to find out what openings there are, then consider those for which the applicant feels he (or she) is specially suited or for which he can prepare, make the application for the appropriate examination in time, study in preparation for this along the lines of the syllabus set forth, and make a real bid for success.

As to salaries in the clerical and executive classes: here again the particulars supplied will give full information. For example, at present the clerical salaries in London at the age of 25 for men reach £360 a year, and for women £330, with increments after that to a maximum of £550 for men and £440 for women. In the executive classes the figures are, of course, higher: an executive officer reaches about £470 a year at 25 (or age of entry, if higher) and rises by increments ultimately to a maximum of £760, with possibilities of promotion to follow. There are small deductions for appointments if held in the provinces and not in London. Higher executive officers can reach £930, senior executive officers £1,150 and chief executive officers £1,400 at their maxima. Those are the kind of salaries successful Civil Servants can reach in these classes, and the Civil Service is one that deserves every consideration from past and present members of the forces who have the educational possibilities and personal qualities to pass the necessary tests.

Customs and Excise

Officers of Customs and Excise and the Waterguard Service have to be more specialized in their jobs than those in the general run of Civil Service appointments—but all these special points can be explained in detail to anyone who aspires to an appointment of any particular kind. It can, however, be noted that entrants to this branch of the Civil Service are recruited by separate examinations, with interview.

In the Customs and Excise the salaries range from £350 as a start to a possible £960 a year in the Waterguard branch, and from about £410 to as high as £1,700 a year for Customs and Excise officers who have been able to reach the highest offices in that branch. There is also a non-contributory pension scheme which is applicable, also, to the Civil Service as a whole.

Perhaps it is here that reference can be made to two other branches of the Civil Service for which some Regular and certainly many National Service men would be qualified to apply—the scientific and the engineering branches.

The Scientific Branch

The Scientific Civil Service is associated with many of the State departments, and only indirectly concerned with the public utilities, such as the National Coal Board, British Railways, the B.B.C., the nationalized gas and electricity undertakings and so on, and the various Government-aided research institutes of certain industries. Collaboration with these organizations, however, may from time to time be necessary.

Many of the members of the Scientific Civil Service are employed in the over one hundred experimental establishments, the great majority of them in this Country, but a few are situated in various places in the British Commonwealth. The bulk of such officers, however, work in association with the Admiralty and the Ministry of Supply.

The organization next in order of size is the Department of Scientific and Industrial Research, of which the National Physical Laboratory, the Geological Survey, the experimental establishments connected with building and road research, forestry and pest infestation, chemistry, fuel, food preservation, water pollution, and certain radio research are branches. (The Royal Observatory comes under the Admiralty.)

But these are not all the ramifications of the Scientific Civil Service, for its members work also with the Ministries of Food, Agriculture and Fisheries, and Health (and the corresponding departments in Scotland), the General Post Office, the Home Office, the Ministry of Works, the Ministry of Fuel and Power, the Colonial Office, the War Office, the Royal Mint, the British Museum, and the Board of Trade, as well as other departments that might require the aid of scientific research.

The Scientific Civil Service is now organized in three classes: the scientific officer, the experimental, and the assistant (scientific) classes. For the first, a suitable university degree in first or second class honours is usually necessary. The scientific officer class, the appointments to which are by competition and are for posts in this class advertised in the national Press, is the "initiating, directing, inventive brain of the Scientific Civil Service." The work of such officers is in the nature both of research and of development in the application of science to the public service.

The experimental class is the main support of the scientific class, and is recruited partly from graduates and partly from men and women who have reached, in the appropriate subjects, the higher school certificate stage equivalent to intermediate B.Sc., or have passed this degree stage. They work under the guidance of, and as a team with, the scientific officers.

The assistant (scientific) class completes this team and its duties are concerned with routine observations, records, and experiments. Such assistants are rather like the very useful laboratory and technical assistants of everyday life, whose duties and scope are generally pretty well understood.

As to salaries: scientific officers (male) in London may be appointed at about £440 a year, rising quickly to £710, and senior scientific officers (male) from £810 to £1,020. For women the figures are £440 to £575 and £680 to £920.

A comprehensive pamphlet on the work of the Scientific Civil Service and prospects in it is published and can be obtained by information, welfare, and education officers from the Civil Service Commission, Trinidad House, Old Burlington Street, W.1.

The Engineering Branch

Another group of appointments is also dealt with by the scientific side of the Civil Service Commission; this covers engineering services. Like the scientific appointments, these are normally filled by open competition. There may also be some opportunity for establishment restricted to persons temporarily employed in the various ministries concerned, who have completed the minimum period of temporary employment required, and who, of course, hold the engineering or technical qualifications appropriate to the particular vacancies.

It is the open competitions which will interest Service men mainly, although, obviously, if a Service man can obtain and hold for the necessary qualifying period a temporary engineering or scientist's appointment he would be eligible for any suitable competitions which may come along and which could lead to a higher grade or, at least, to an established or permanent position in the department.

It will only be necessary in this article to indicate a few of the appointments for which competitions were invited in recent months: electrical engineers in the Admiralty, inspector of mines and quarries in the Ministry of Fuel and Power; vehicle examiners in the Ministry of Transport; production engineers in the Standards Section or in the Production Pool of the Admiralty; architectural and civil engineering draughtsmen, and cartographical draughtsmen, both for a wide range of Government Departments; technical assistants in the Ministry of Transport; fuel engineering assistants in the Ministry of Fuel and Power; mechanical and electrical, architectural and civil engineering draughtsmen, and lands officers in the War Office and the Air Ministry; architects, maintenance surveyors, quantity surveyors, estate surveyors, civil engineers, sanitary engineers, structural engineers, and lands officers under various Ministries; officers for telecommunications under the Ministry of Civil Aviation; and professional engineers in the General Service class—recruitment to basic grades—to name a few of the many and varied engineering appointments which from time to time are advertised for competition in the national Press.

The salary scales governing the engineering services are too many and too varied to be given here, but they are good and comparable with the scales in the Civil Service generally.

The Service man will do well to look at the advertisements issued by these branches—as well as other sections—of the Civil Service. It is anticipated that a pamphlet similar to the one described for the scientific branch will be issued in the engineering branch in due course, and when available this should be studied by welfare, education, and other officers concerned, so that potential applicants can be rightly advised on these possibilities, and in time. Copies of all such publications should be made available also in unit or camp information rooms, and kept up to date for accurate reference when a Service man or woman seeks information and advice. The careers bulletins issued by the War Office on behalf of all three Services are also valuable sources of infomation of this kind.

Need to Ascertain Requirements

In respect of all the appointments discussed in this article, the Service man (or woman) should ascertain what qualifications are needed for the various appointments in the Civil Service. If the executive class seems to be the opening best suited, then he (or she) should, with the aid of the education service, prepare for the examination and use leisure time for such preparation and study.

If the scientific or the engineering branches of the Civil Service are in view, then it will be necessary for the Service man to ascertain what scientific or technical qualifications (and the experience necessary) are required for appointments in these branches. He will consider how far he can, during his naval, military, or air force service, be able to obtain such a qualification or reach a stage towards such a qualification. For example, many officers, after Sandhurst, proceed to Cambridge University for an engineering degree, or to the Military College of Science to take a degree in science. Such officers, when the time for retirement comes, will have a negotiable qualification for some of the scientific and engineering appointments now discussed.

An example of 'other rank' qualification is that of health non-commissioned officers in the R.A.M.C., who may, at the same time, qualify as civil sanitary (or health) inspectors.

There is, indeed, a great need to link up technical training in the Services with standard qualifications which are recognized also in civil life. Too often are technologists from the Services seeking to be appointed to the Civil Service executive class because their Service technical qualifications and experience are not recognized as such for the purposes of many, *commensurate*, civil appointments. Such a correlation of technical qualifications for the Services with those ruling in civil life is urgently necessary, if only to encourage the recruitment of the best type of men who hope that their careers in the Services will not lead them into technical or professional blind ends.

Conclusion

Those still serving, once they have decided on entering one of the competitions, should seek the assistance of the education officer concerned with the unit or station in which they are serving. This officer will be able and ready to assist in every way, both with advice as to procedure as well as in the actual study required in preparation for the examination. There are also correspondence courses which the War Office organizes (for all three Services) and which may be of great value to the student-candidate. Application for a suitable course should be made through the usual channels. Commanders of ships, units, establishments, and stations of all kinds should ensure as much publicity to these schemes as possible, and see that the officers concerned are properly briefed about the various openings which are offered in the Civil Service.

The Civil Service is another direction in which people trained to serve their Country in the Royal Navy, the Army, or Royal Air Force can continue their lives in the same high tradition. Except for the Customs (Waterguard) Service, the work in civil life is not uniformed, but it carries a status and a dignity that will rest well upon the person of the best type of Service man. The important thing is that the Service man should, even when on a long-term engagement, set himself a goal to work for during his time with the Colours. He can prepare himself by way of general education for the non-technical, special ex-Service entry into the Civil Service, or he may find that he could complete or obtain a technical qualification recognized for the scientific or engineering branches, and enter the open competitions in these branches advertised from time to time. With the educational provisions now available in the Royal Navy, the Army, and the Royal Air Force, such long-term preparation is made easily possible, and indeed, encouraged. The duty of the unit headquarters is to pass on all information relevant to these and other openings available, ultimately, in civil life. After that, the successful entry of the man, when his service ends, into such appointments will depend largely upon his own native ability and personal effort, as aided by the educational staff of the station or ship in which he serves.

REFLECTIONS ON THE CONDUCT OF A FUTURE WAR

By Admiral Sir William James, G.C.B.

THE soaring cost of warplanes, warships, and other war weapons is causing anxiety, if not consternation, in some quarters, but there is one aspect of this increase in prices that should cause rejoicing.

The publication of Field-Marshal Lord Haig's diaries has fanned the flames of one of the most bitter controversies in the history of war. Every historical publication and every biography or autobiography of Allied leaders in the last war, adds fresh fuel to the other great controversy, that which rages round the strategic bombing offensive. These controversies will not be lulled until the voices of all the leading actors in those two world wars are stilled and the historian, completely impartial, can balance what was gained and what was lost in the two costliest operations ever undertaken by British arms.

To-day, a middle course is seldom taken by the controversialists. One side considers that Haig was a stubborn man, a man of little imagination, who paid scant heed to the enormous casualties and, having decided on a course of action, went on and on until he was forced to stop. The other suggests that he was a very skilful, far-seeing, humane man who, certain that there was only one way of preventing the front collapsing and losing the war, was equal to the occasion. Similarly, in the other controversy, the bombing offensive was either conducted with no imagination, without any heed to what was really being achieved, and with no regard to the immense expenditure of men and planes, or else was a wise and fruitful campaign which laid the foundation of victory.

It is all very bewildering, but there is one uncontroversial feature common to both these offensives. In neither was there any demand for strategical skill. The junior officers were responsible for the tactics, there was no need for strict economy in man-power and resources, and so the whole process of conducting a campaign had gone into reverse.

In earlier wars our generals and admirals seldom knew, within several months, when reinforcements would arrive. Weeks sometimes became months, especially when a troop-carrying convoy encountered heavy weather. They thus had to exercise strict economy in their expenditure of men and material.

The outcome of a campaign depended on their strategical skill up to the moment of battle being joined, and then on their tactical skill. Producing the right force at the right place at the right time was an art; an art that reached its highest expression when men of the stature of Napoleon and Wellington were directing a campaign.

There was rarely any great disparity between the number of fighting men deployed for battle by any two armies before the famous historical battles were joined. The general who outwitted and outfought his opponent by better tactics won the day. At sea, British admirals seldom commanded a superior force in any of the historic sea-battles. In the two campaigns in the Indian Ocean which decided the fate of India, the one in which Pocock and D'Aché, and the other in which Suffren and Hughes, were the rival commanders, reinforcements were neither expected nor demanded by the two doughty opponents. They knew that they would have to fight it out with what they started with and, by hook or by crook, replace their damaged spars and sails without recourse to seaborne supplies.

Indeed, the contrast between the generalship and admiralship of those earlier wars, and the steam-rollership of these two later controversial offensives, is very striking.

There is, too, the paradox that the greatly increased speed of battle did not demand increased rapidity of thought at headquarters, though it did demand lightning decisions by junior officers. Another paradox is that our victory might have been less costly if we had had fewer resources.

In April, 1943, Goebbels said: "In the U-boat war we have England by the throat." In March of that year 627,000 tons of shipping had been sunk, and 68 per cent. of the ships sunk had been in convoy. If these sinkings could not be checked we would soon have been unable to fight for want of food and armament. Coastal Command aircraft had proved a most powerful anti-submarine force by attacking U-boats on the surface, or compelling them to dive deep, and it was beyond doubt that if the waters round the convoys were patrolled by aircraft, the effect would be immediate.

If our resources had not been so great that we were able to replace bombing planes as they were lost, we would never have become so deeply committed to the strategic bombing offensive and, in that case, there is little doubt that some of our air potential would have been devoted earlier to the Battle of the Atlantic. Our over-all war potential, as a result, would have been far higher in 1943, whilst the damage done to German war-production and morale would have been no less than it was.

Now we are entering a new age, one in which every weapon costs so much that a belligerent who expends his resources lavishly will soon be powerless. It is thus an age when those in command of armed forces will very likely have to offset an inferiority in numbers by superior strategy and tactics. We should rejoice that the conduct of a future war will once again be an art and that steam-rollering will no longer be possible. All through our history British commanders have proved that, in a war of manœuvre, their strategical and tactical skill is second to none. This art reached its highest expression when Field-Marshals Wavell, Alexander, and Montgomery commanded our armies, and there is no better example of skill overcoming lack of resources than Admiral Cunningham's Mediterranean campaign.

One unwelcome feature that has been introduced into war is the invention of weapons that can strike at great distances. In the earlier wars, generals and admirals knew exactly what their forces had achieved, what ground had been gained or lost, what casualties had been inflicted on the enemy, what ships had been sunk or captured. To-day, the true effect of a long-distance bombing attack can only be guess-work. In the last war both the Germans and ourselves believed that our bombs were being far more effective than was the case; we both believed that civilian morale would break under a sustained bombing offensive. In both countries a vast quantity of masonry was turned into rubble and thousands of civilians were killed, but the only effect was a hardening of the determination to win the war.

This wishful thinking first appeared in the 1914–18 War when the German submarines, on return to base, reported that they had sunk a far greater tonnage than was the case. They did not falsify their reports to gain merit. They had been compelled to dive after firing a torpedo, had heard an explosion, and automatically added their target to the list of their victims. They had not seen the ship sink. The submarine hunting forces also frequently reported the destruction of a submarine

which survived to fight another day. Submarines often discharged wreckage when hunted and this was taken to indicate that the hunt had been successful. In the 1939–45 War, submarine-hunting vessels who had depth-charged wrecks in the Channel often believed that they had destroyed submarines. Mr. Churchill much enjoyed telling the Commons that after one of these attacks a door with 'W.C.' on it had come to the surface.

This wishful thinking reached a high water mark during the long-distance bombing offensives. Both belligerents made extensive use of decoys—Portsmouth was on two occasions saved from a very heavy bomber attack by a decoy—and both re-established their main war-production plants either under bomb-proof protection or in camouflaged areas. Planes now fly faster and farther than ever before, and it will be even more difficult than it was in the last war to estimate what an attack has actually achieved.

Obtaining intelligence of the conditions in Germany was more difficult in the last war than in the 1914–18 War; it would be still more difficult and probably quite impossible to obtain intelligence of conditions behind the iron curtain. Yet, when each plane will be so valuable, sustained bombing attacks on the chance of damaging the enemy's war potential will not be admissible; there will have to be some certainty of success.

This lack of enemy intelligence will intensify the difficulties of conducting a future war but, on the other hand, there is far less likelihood of a rapid decision by a secret weapon, because the Western Powers are on the alert and methods of attack and defence are under constant review. It is even now not generally realized how near we came to disaster when the Germans launched their magnetic mine attack because, so far, historians of the war have not stressed the effect of this attack. It was a stroke of good fortune that two mines were dropped on to a mudbank early in the attack, making them easy of access at low water. Upon examination, their secrets were revealed.

Nor is it generally known that, in 1918, we had designed a magnetic mine but that, owing to financial restrictions during the inter-war years, development was abandoned. So, too, was the development of counter-measures which would have proceeded concurrently with the development of the mine.

It is also not generally known that experiments with flying weapons were progressing satisfactorily at Portsmouth in 1940, but were abandoned because their production in quantity would have absorbed more of our manufacturing capacity than was at that time considered justifiable. But if we had developed these weapons, we would have concurrently studied counter-measures and thus have been better prepared than we were when the Germans opened their flying-weapon offensive.

Then again, before the 1914–18 War, we did not believe that a civilized nation would disregard the time-honoured usages of sea-warfare and would sink merchant ships without warning. As a result, although we had expended vast sums on building a battle-fleet to match the German battle-fleet, we had spent little money or thought on measures to fight the submarines. The German unrestricted submarine campaign was, in effect, an attack by secret weapon and it nearly caused our downfall.

The study of anti-submarine warfare continued during the inter-war years but, owing to financial restrictions, very few anti-submarine vessels were built, and when the decision to re-arm the nation was taken, the money available to the Admiralty had, perforce, to be expended on units that would take a year or more to build.

Germany had acceded to a treaty governing submarine warfare in 1936, but it was unlikely that Hitler would hesitate, where the Kaiser and Tirpitz had not hesitated, and this time we knew what to expect. Nevertheless, we were nearly brought to our knees in 1943.

The common factor in all these cases of attack which placed us in dire peril is that if we had given more thought to counter-measures, and had been willing to spend more money on them, we would never have run such fearful risks. To-day, the threat of war is very real and not just a nebulous possibility, and so the Western Powers are concentrating thought and energy on building up an adequate defence. That should severely limit the possibility of their plans being disrupted by an unexpected weapon.

To sum up. The enormous cost of weapons to-day limits the number that can be manufactured in peace and the number that it will be possible to produce in war. A future war will be a war of manœuvre and will demand the very qualities which the commanders of the Western Powers have, in the past, revealed in their strategy and tactics, and there is far less likelihood of the pattern of war being ravelled by a secret invention.

DEFENCE AGAINST MASS ATTACKS

By "ATHOS"

IN his introduction to *The Nation in Arms*, published late in the XIXth Century, von der Goltz wrote: "If we look forward into the future, we seem to feel a time coming when the armed millions of the present will have played out their part." Lecturing at Berlin in 1928, von Seeckt expressed similar views. He advocated a small, highly trained, very mobile professional army but, apparently fearing that this small hard-hitting force might be lost in space and swamped by masses, temporized by adding a militia.[1] Up to the Summer of 1941 it seemed that the prophets had been right. But the war of masses, with all its inefficiency and horror, supervened and, to-day, warfare against hordes appears to be the most likely form of conflict in which the Western Powers will be involved. A major problem will be how to render these masses impotent.

It is possible that events in Korea are the shadow of things to come, and that mass attacks, made with complete disregard for losses, will have to be met and smashed. "For," as a writer in the JOURNAL remarks, "the alternative to swift and successful battue-shooting is submergence through sheer weight of numbers."[2]

Mass attacks are, of course, not a new phenomenon, and their success or failure throughout the centuries has been due to similar factors—factors which are still extremely potent. It is proposed in this paper to examine some examples from the many available to show how these factors affected the outcome, and to suggest some tactical and other conclusions relating to defence against such attacks. It will be sufficient to commence the examination at the Napoleonic Wars, with one brief reference to our own ancient history.

LONG-BOW AND MUSKET

The *levée en masse* provided Napoleon with the human material, the 'big battalions'—his recipe for victory. He obtained his results on the battlefield mainly by shock, delivered at the right time and place. The Continental armies of that time, half beaten before the battle, heavily shelled, harassed by skirmishers and discouraged by the sight of the following masses, invariably gave way—and were lost. But the heavy drain of the war of masses, continued for years, led to decline in the efficiency and morale of the Grand Army. As the old, almost fanatic, *élan* vanished, so the attacking columns became heavier and less flexible, while the intensity of the preliminary 'case-shot attack' had to be increased. As early as 1809, Marshal Macdonald's solid column at Wagram numbered 22,000 and was supported by 100 guns.

At Ligny, 16th June, 1815, the Napoleonic masses succeeded against the young Prussian troops as Wellington, who had seen their dispositions, foretold. Two days later the Emperor's last great mass attack failed at Waterloo. Why?

The factors which led to the crushing defeat of the French attacks at Crécy and Agincourt appear again in Wellington's victories in the Napoleonic Wars. These two ancient battles were won by stout-hearted men, outnumbered, but armed with the

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[1] *Modern Armies*, R.U.S.I. JOURNAL, February, 1929.
[2] *War—Professional or Amateur*, R.U.S.I. JOURNAL, November, 1951.

famous long-bow, in the use of which they were highly skilled. Moreover, they were deployed to secure the utmost fire effect and, at the same time, posted in such a way as to make the best use of ground. Wellington's troops possessed the same tenacity and were invariably disposed to employ natural features as cover from view and from fire. The battalions, except when forced to form square to meet cavalry, fought in line two-deep, so that the maximum number of muskets could be brought to bear. In addition, their rate of fire was much quicker and their standard of fire discipline higher than that of any contemporary army.

The following graphic account by Lieut.-Colonel Bugeaud,[3] who served for seven years in the Peninsula, shows the effect of Wellington's tactics on the hitherto invincible French troops. It is in effect a study of minor tactics and psychology, which indicates the reasons why Napoleon's mass attacks failed at Waterloo.

" The English," Bugeaud says, " generally held good defensive positions, carefully selected and usually on rising ground, behind the crest of which they found cover for a good part of their men. The usual obligatory cannonade would commence the operation, then, in haste, without duly reconnoitring the position . . . we marched straight forward.

" When we got to about a thousand yards from the English line the men would begin to grow restless and excited ; they exchanged ideas with one another, their march began to be somewhat precipitate, and was already growing a little disorderly. Meanwhile, the English, silent and impassive, with ordered arms, loomed like a long red wall ; their aspect was imposing—it impressed novices not a little. Soon the distance began to grow shorter : cries of ' *Vive l'Empereur ! En avant à la baionnette !* ' broke from our mass. Some men hoisted their shakos on their muskets, the quickstep became a run : the ranks began to be mixed up : the men's agitation became tumultuous ; many soldiers began to fire as they ran. And all the while the red English line, still silent and motionless, even when we were only 300 yards away, seemed to take no notice of the storm which was about to beat on it.

" The contrast was striking. More than one amongst us began to reflect that the enemy's fire, so long reserved, would be very unpleasant when it did break forth. Our ardour began to cool : the moral influence (irresistible in action) of a calm which seems undisturbed as opposed to disorder which strives to make up by noise what it lacks in firmness, weighed heavily on our hearts.

" At this moment of painful expectation the English line would make a quarter-turn—the muskets were going up to the ready. An indefinable sensation nailed to the spot many of our men, who halted and opened a wavering fire. The enemy's return, a volley of simultaneous precision and deadly effect, crashed upon us like a thunderbolt. Decimated by it we reeled together, staggering under the blow and trying to recover our equilibrium. Then three formidable ' hurrahs ' terminated the long silence of our adversaries. With the third they were down upon us, pressing us into disorderly retreat. But to our great surprise they did not pursue the advantage for more than some hundred yards, and went back with calm to their former lines, to await another attack. We rarely failed to deliver it when our reinforcements came up—with the same want of success and heavier losses."[4]

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[3]Bugeaud, afterwards a Marshal of France and conqueror of Algeria, had seen service at Jena, Eylau, and Austerlitz before going to Spain.

[4]Quoted in *Wellington's Army*, by Sir Charles Oman.

The Breech-loader Era

Attacks in close order still took place. The Prussian Guard at St. Privat, in 1870, lost 4,500 men out of 12,000 in half an hour, and were stopped short of the excellent French position. During the War of 1877–1878, the Russians attacked at Plevna in clumsy mass formations and, though incurring enormous losses, failed to shift the gallant Turks who, behind earthworks and armed with the Martini, achieved remarkable fire effect. At such favourable targets the Turks opened fire at long range, and the Russian General Todleben is credited with the statement that in one attack 10,000 men fell to an enemy none of them saw.

Continental armies failed to profit by the lessons of South Africa or to appreciate the increased fire power of small arms in the hands of skilled men. At Mons, the Germans attacked in close order and, as they were opposed by highly trained, well-concealed riflemen, lost heavily to no purpose. The accuracy and rapidity of rifle fire in the original British Expeditionary Force was unprecedented, so the legend grew that the British battalions were armed with many machine guns instead of two. But the Germans continued to come on in masses, and at Ypres, in the Autumn of 1914, the new *ersatz* corps of young volunteers advanced hand in hand only to be stopped with frightful loss by a few packets of riflemen.

At Helles, on 1st May, 1915, the Turks made a mass attack on the 29th Division which, though pressed with great gallantry, achieved nothing. On 19th May, at Anzac, four fresh Turkish divisions, totalling some 35,000 men, attacked in solid waves. Although the majority had only to cover some 200 yards the attack was a disastrous failure in which the Turks admitted 10,000 casualties. The defenders lost about 600.

On 1st July, on the Somme, the British attacks, made in several waves, failed with heavy loss in spite of a terrific preliminary bombardment. The formations adopted were, perhaps, the most unsuitable ever used by the British Army. The long lines of overloaded men plodding steadily forward were ideal targets for the enemy machine guns, combined as they were with efficient obstacles.

In 1941, the German mobile troops were delayed by the need to hold the vast pockets of surrounded Russians until they could be dealt with by the marching divisions. In spite of the enormous number of prisoners taken, the Germans in front of Moscow were confronted by fresh hordes which halted their exhausted and half-frozen divisions who were forced to go over to the defensive for the Winter.

As the war progressed, Russian attacks, made in successive masses regardless of loss, began to meet with spectacular successes. The troops used seem to have been regarded as expendable, the foremost waves often consisting of punishment units. Finally, however, they succeeded in swamping the defence by sheer weight of numbers.[5] But it must be observed that the German formations were then tired, under establishment, of diminishing efficiency, holding wide fronts with insufficient depth, and generally mishandled at the behest of the 'Bohemian Corporal.'

Small Wars

In the many colonial wars of the XIXth Century mass attacks were made by fanatical tribesmen. As the lessons of these operations are not without value at

[5] At the outset of the Russian offensive in January, 1945, the Germans, according to Guderian, were outnumbered by 11 to 1 in infantry, 7 to 1 in tanks, and 20 to 1 in artillery.

present, some examples are considered below. They also show the development of the ' square ' which led to its employment in modern warfare.

In 1883 and 1884, before British intervention in the Sudan, two Egyptian forces, commanded by Europeans, one 8,000 and the other about 4,000 strong, were destroyed by the Mahdists. But they were poor troops, badly officered, ill-disciplined, and partly trained. At Adowa, in 1896, an Italian expedition of 15,000 men, mostly Europeans, was caught off balance by an Abyssinian force some 120,000 strong, and suffered the greatest reverse inflicted by irregulars on a Regular army in modern times. The separated Italian brigades, in linear formation, were defeated in detail, being rushed and enveloped by masses of swordsmen, many of whom were also armed with rifles. Nevertheless, the attackers incurred heavy casualties.

A direct contrast is Bugeaud's triumph at Isly, in 1844, where he was faced by 60,000 Moorish horsemen and an unknown number of footmen. Arranging his force of 8,000 into a formation resembling a blunted triangle—" muzzle of a boar " he called it—Bugeaud thrust into the centre of the opposing array and invited attack. The result was the most decisive victory over irregulars in the XIXth Century, except Omdurman. The French, however, were seasoned soldiers, commanded by a master of colonial warfare and in a formation having the characteristics of a square.

From the time of the British intervention in the Sudan, the Mahdist mass attacks were invariably smashed, and in all the actions fought the attacking Mahdists suffered casualties out of all proportion to our own. This result is attributable to the steadiness of our well-drilled troops and their effective rifle fire ; and, also, to the adoption of a square formation.

At Omdurman, in 1898, the Anglo-Egyptian force spent the night before the battle in a *zareba* with its back to the Nile, upon which both flanks rested. The British battalions were armed with the Lee-Metford magazine rifle and some primitive machine guns ; the other units had the old Martini. A few batteries and some gunboats were in support. Next morning the battle opened with an attack on the portion of the front held by the British battalions, when 20,000 Dervishes advanced in mass over open ground. Rifle fire was opened at long range ; the attack petered out some 700 yards from the position with a loss estimated at 8,000. In the whole action the Mahdists lost some 11,000 dead and 16,000 wounded ; the British, Egyptian, and Sudanese units had 48 killed and a few wounded, mainly in our counter-attack.

Development of the Square

The squares adopted to meet mass attacks by fanatical warriors in small wars differed from the tightly packed formations used to receive cavalry in the Napoleonic Wars. They were employed in action, on the march, and in bivouac, the object being to provide *all-round defence* against an enemy who invariably sought to envelop a flank or attack in rear as, for instance, the Abyssinians at Adowa. In the Sudan our squares were formed with men in two ranks, shoulder to shoulder when facing outwards, and thus able to develop the maximum fire effect from the available rifles. When time permitted, or when in bivouac, an obstacle was added, consisting usually of a fence of cut thorn-bush and known as a *zareba*. Within the space thus enclosed were the guns, transport, non-combatants, etc. The mobile troops, inside at night, generally moved out during or prior to action. A more elastic type of square was developed for use in bush warfare, and the dispositions adopted on the North-West Frontier of India were analogous to the square.

It is well known that during the last war we adopted a form of defence in Libya and Burma known as a ' box '—a development of the square used in small wars. Though designed with a similar object, the boxes were mostly larger and more permanent than the squares which moved according to the situation. The boxes in Libya, dug-in, wired, and mined, were garrisoned by a formation with its complement of supporting arms, and stocked with supplies and ammunition. The intention was that each should be capable, if attacked, of holding out until relieved ; but their role was not entirely passive should the enemy by-pass them. The boxes successfully used in Burma, though hastily constructed, were similar in design and object, as were the smaller strongholds of the Chindits in 1944.

During the Winter of 1941–1942 the Germans used a similar lay-out in Russia—the ' hedgehog.' These were generally much larger than our boxes, some being in the nature of fortified regions, providing all-round defence, and also intended to be self-supporting until relieved.

These boxes, etc., like any other fortress, can only withstand a certain scale of attack, or hold out for a limited period if cut off, unless supported by counter-attack and/or replenished. The 150th Infantry Brigade Box and Bir Hakeim in Libya were lost as no aid from outside was forthcoming. The Germans lost the important hedgehog of Kaluga and several others for similar reasons. But in each case the attackers paid heavily for their capture in casualties and *loss of time*. In future, air supply should be facilitated by the use of helicopters.

The boxes in Burma held out against and disrupted the Japanese counter-offensive in the Arakan during February, 1944. Backed by air superiority, and supplied by air, they proved the first successful counter to Japanese large-scale infiltration in difficult jungle country.

Summary

An attempt has been made to show why mass attacks against good troops have failed, usually with great loss. It may be argued that the examples given were attacks in daylight, but it must not be overlooked that at night modern machine guns firing on fixed lines and co-ordinated with the artillery defensive fire can to a great extent redress the balance. A factor which must be appreciated, however, is that after a time losses and exhaustion will affect the ability of even the best troops to resist a succession of mass attacks. If aid is not forthcoming the outcome may well depend on which side cracks first.

If the examples given in the preceding sections be studied in detail it should be clear that certain qualities, skills, and knowledge lead to a successful defence against mass attacks. These may be summarized as :—

(*a*) Morale and tenacity.

(*b*) Suitable formations or dispositions.

(*c*) Use of ground and cover in combination with (*b*). Employment of obstacles.

(*d*) Skill at arms of the Infantry.

(*e*) Fire control and fire plan.

As regards (*b*) and (*c*), above. The square formation, as it has developed, is a method which, modified as necessary, may yet be of considerable value under modern

conditions. Experience indicates, however, that the following are essential if these boxes are to fulfil their purpose :—

(*a*) Well-trained troops, provided with adequate means.
(*b*) Mobile forces outside to co-operate or counter-attack in time.
(*c*) Replenishment by convoy or air supply.

Reflections

Catchphrases and slogans such as " Wars are won by attacking, not defending," are fatal to sound judgment and, therefore, dangerous. Surely the basis of any plan of campaign is a reasonable security to allow of offensive action when and where circumstances are favourable.[6]

Our experience shows that a properly manned and organized defence will not be easily or quickly overrun by an enemy whose superiority rests mainly in mere numbers. The operations in Burma during the early months of 1944 are an excellent example of defence in terrain probably more difficult than that of Korea. Yet we have seen the United Nations forces strung across that peninsula in linear defence which the enemy, relying mainly on numerical strength, was able to break through and infiltrate. The whole line was quickly disrupted and there followed spectacular retreats with heavy loss in morale, men, and equipment. It is to be hoped the elementary tactical concepts reaffirmed by these disasters have not passed unnoticed by those concerned.

There are always areas or points of special significance ; for example, centres of communication, particularly in undeveloped countries, are usually of major importance. If these be blocked or denied by positions fortified and protected in the same way as our boxes in the last war, *time* can be gained and the attack disorganized as, indeed, the British troops were able to do on a small scale in Korea. No army can continue an offensive for more than a short period without lines of communication, and the successful defence of such fortified areas should produce a situation favourable for decisive counter-attack.

It has been suggested that, in addition to tactical *savoir-faire*, there are certain skills and qualities necessary to smash mass attacks and minimize the effects of infiltration. Success will not be achieved simply by superiority of machines and equipment ; the troops must be highly trained, confident in themselves and in their leaders. This applies especially to the Infantry on whom the brunt of the defence will always fall and who must, in the end, be capable of stopping the enemy at close quarters with rifle and bayonet. For, as Marshal Foch remarked in September, 1918 : " It is immortally true that there is more in defenders than in defence."

[6]Or, in the words of Napoleon's maxim ; " The whole art of war consists in a well-reasoned and extremely circumspect defensive followed by a rapid and audacious attack."

NAPALM

By J. M. Spaight, C.B., C.B.E.

Targets, Strategic and Tactical

A GOOD deal has been said and written of late about bombs, but not very much about the targets against which they are used. That is illogical. The target has to be taken into account no less than the weapon. The one is hammer, the other anvil. They cannot be separated in function. There has been a tendency to view the bomb *in vacuo*, so to speak, to see it as something that is bad *in se* without relation to its objective. This tendency has been especially apparent in criticisms of strategic bombing, particularly that which is directed against urban targets, but it has also been noticeable in recent references to tactical bombing, the circumstances of which are essentially different.

At the York diocesan conference on 3rd July, 1952, the Archbishop of York called for the international prohibition of nuclear weapons, of the napalm bomb (" which causes exceptionally horrible and indiscriminate suffering "), of obliteration bombing, and of bacteriological warfare. The napalm bomb differs in more than one respect from the other weapons and methods of war of which Dr. Garbett thus advocated the prohibition. As Mr. Nigel Birch, Parliamentary Secretary, Ministry of Defence, stated in the House of Commons on 14th May, 1952, it is " a tactical weapon which can be directed accurately at a limited target." It was normally dropped, he said, from a height of less than 100 feet and was ineffective if dropped from a great height. It had been used in Korea principally against enemy storage and supply areas, tanks, transport, and troop concentrations. The use of it against civilians, he added, was forbidden by orders.

Napalm in Korea

The bomb, it is evident, is not a weapon for strategic use. The other weapons and measures of war referred to by Dr. Garbett are. The use of them affects the ordinary population of an enemy country in a far greater degree than does napalm, which is, broadly, a weapon for use in battle areas. Undoubtedly, it may inflict terrible injuries and cause excruciating suffering. When a United Nations patrol entered a valley which had been napalm-bombed during the Communist offensive on the East-central front in Korea in May, 1951, it came upon about 1,000 dead and wounded men, many of the latter moaning in agony and crying in English " Shoot me, shoot me ! " Some of the bodies had been burnt black. It was a heart-rending scene, but sights hardly less awful could be seen after attacks with other weapons which have long been used in war without arousing protest, flame-throwers, for instance. The napalm weapon is, in fact, only another form of flame-thrower. It is a particularly effective one against matériel ; it is not primarily a weapon for use against personnel. That fact is important. Here, as elsewhere, the target must be remembered. If it is used to stop an enemy tank which is advancing and perhaps scrunching its way through the helpless wounded lying in its path, the sum of evil involved in its use is not all on one side of the account. And from the longer point of view the use of it may have another and greater justification. But for it the United Nations forces might have been bundled neck and crop out of Korea in 1950–51. That would have been an immeasurable calamity for humanity. It would have meant the end of international co-operation for the prevention of aggression.

Napalm did help to turn the tide. Of that there is ample evidence. United

States Marine Corsair aircraft using it accounted for scores of North Korean tanks when the invaders were pressing South in 1950. The United Nations forces were in grave jeopardy then. Only their fire power saved them, and of that power napalm and rockets were not the least important elements. They slowed down the enemy's advance and gave time for the reinforcement of the defenders' line. At a later stage the F-80 Shooting Stars and F-84 Thunderjets saved the day on more than one occasion with rockets and napalm. The napalm was dropped with extraordinary precision, sometimes only 50 yards ahead of the American troops; it was also dropped on the sides of a hill while marines were all along the road directly beneath.[1]

Napalm was one of the ' discoveries ' of the Korean War. It had been used in the fighting in the Pacific in the 1939–45 War, but it was in Korea that its effectiveness as a stopping weapon was fully demonstrated. " The napalm bomb," an R.A.F. officer has said, " proved itself to be extremely valuable in many aspects of hill fighting and in many uses, both against armour and against strong-points of every kind." " The use of rockets and napalm," he said later, " has reached a stage where a very small number of aeroplanes can deliver a fearful punch if they can locate the spot and put their sights on it."[2]

Napalm in a Future War

Is it seriously supposed that the Atlantic Powers, having this weapon at their disposal, will refrain from using it against the enemy armour if the Russians try to smash their way through western Europe? The indications are that it will certainly be used unless, when the time comes, some still more destructive weapon has been substituted for it. The F-84 Thunderjet has been supplied to the air forces of France, Belgium, the Netherlands, Italy, Norway, and Denmark in large numbers. With its six .50 guns, its eight H.V.A.R. rockets, and its two tip-tanks each able to carry 230 gallons of napalm, it is the foremost fighter-bomber in the world; its napalm load makes it a terrible instrument of devastation. That banning would prevent its use is a pipe-dream. History would repeat itself. The position would be comparable to that which existed when the German airships were raiding England at their good pleasure in the 1914-18 War. They met their masters in 1916, and their masters, in that earlier Battle of Britain, were the pilots of the Royal Flying Corps with their incendiary bullets. Now, these bullets were prohibited missiles under the terms of the Declaration of St. Petersburg, 1868. They were, however, the specific antidote to the plague of raiding Zeppelins, and the use of them was justified by the necessity of war. So, in so far as napalm is a specific antidote to the tank, its use will be justified on like grounds.

Necessity of War

What is necessity of war? The question has been debated by international jurists, and, as is not uncommon in such debates, *quot homines, tot sententiae.* In German the term for it is *Kriegsraison*, with which is contrasted *Kriegsmanier*, the general body of the laws of war recognized by international usage. *Kriegsraison*, German jurists have argued, overrides *Kriegsmanier.* Its claim to priority is based on the ground that no belligerent commander will allow his force to be destroyed as

[1] *Battle Report: The War in Korea*, prepared from official sources by Captain W. Karig, Commander M. W. Cagle, and Lieut. Cdr. F. A. Manson, 1952, p. 411.

[2] Wing Commander P. G. Wykeham-Barnes, *Journal of the R.U.S.I.*, May, 1952, pp. 155, 161.

the result of his adherence to a limiting rule which should ordinarily be respected but of which extreme necessity may justify the setting aside. Historical evidence can be quoted in support of such a contention, but the doctrine is a dangerous one unless kept within bounds. As the late Professor John Westlake said, it might amount, if pushed too far, to claiming " a necessity not of war but of success."[3] It would mean, in fact, the right to dispense with any and every restrictive rule when it was advantageous to do so. The doctrine could be pleaded, however, with some justice in circumstances such as those which existed in 1916, and would exist again if, napalm having been formally banned, use of it appeared to the Western Allies to be one of the measures necessary to halt the Soviet tanks before they forced their way to the Atlantic tidewater.

But, it may be said, there could be no possibility of the use of napalm if, in addition to the ban, an international system of control of it were instituted. If by this it is meant that there should be set up some such elaborate organization as that which has been proposed for the control of nuclear energy, the idea is a fantastic one. The ingredients of napalm—jellied petrol—are common and universally available substances which could not possibly be controlled in the same way as uranium production. In any case, practicable or not, to obtain agreement to and then to set up the organization necessary to make the prohibition effective—if it ever could be made effective—would take, if what has happened in regard to nuclear energy is a guide, the " time and times and the dividing of time " of the prophet Daniel.

Destruction of Stockpiles

If it is also proposed that, the control system having been established, all stocks of the prohibited weapon should be destroyed, the project is open to an objection which goes to the root of the whole matter of international control. To destroy stocks would probably be to *increase* and not to lessen the danger that the banned weapons would be used. Some of them could be readily improvised if war did break out. The existence of them is not only, in peace, a deterrent in an appreciable degree against the resort to war, but, if war does come, it is a powerful factor in the equation of which the result may well be a decision not to use the weapon. The reason is that initial resort to use of them would probably lead to retaliation in kind when the enemy also has stocks of them. This was shown by the Germans' reluctance to use poison gas even in the direst extremity of the 1939–45 War. By the Autumn of 1944 they had developed two new combat gases, Tabun and Sarin. " There was no protection against them that we knew of either by respirator or other means," said Albert Speer at Nuremberg on 21st June, 1946.[4] Ley, Goebbels, and Bormann advocated resort to them but, Speer stated, " In military circles there was certainly no one in favour of gas warfare. All the sensible people opposed gas warfare as being utterly insane, for, in view of the enemy's superiority in the air, it would not have been long before it brought the most terrible retribution upon German cities which were completely unprotected."[5]

All the belligerents had large stocks of gas ready for use in the war. None used gas. They abstained because the existence of each other's stocks was no secret. History may repeat itself when the question of the use of other new weapons arises in a future war.

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[3] Westlake, *International Law, Part II, War*, 1907, p. 117.
[4] *The Trial of German Major War Criminals*, H.M.S.O., 1948, Part 17, p. 54.
[5] *Ibid., l.c.*

An Historical Precedent

It may be that history will stage another of its revivals also. The day of armoured warfare may be passing. Six hundred years ago mailed knights, the unchallenged lords of the battlefield, saw their dominion threatened. It was challenged not, as is sometimes supposed, by the cannon—that came a little later—but by the bow. At Crécy, in 1346, the English yeomen's shafts tore a way through the heart of the old order of war. It was there that armour met its master. The longbow slew it; the proof was there for all men to see; Nicanor lay dead in his harness. Then, too, voices were raised in protest against the introduction of a weapon unknown to feudal chivalry. They were voices from the past; they looked back and not forward; they had no power to stay the march of history. The echoes of them to-day will have no greater effect. New weapons, horrible weapons maybe, will kill the new armour in due season. Napalm will be only one of many, and it, too, will be superseded in time, but meanwhile it will help to close one era of war and to inaugurate another.

STOCKPILING FOR DEFENCE

By Commander P. W. W. Graham, D.S.C., R.N.

IT is a well-proved axiom that the protection of our sea communications is a vital element of our strategy. Experience in the last two world wars has furnished ample evidence of this. In any future war, the threat to these communications might be even more severe than any we have previously encountered.

Technical developments have increased the formidability of both the submarine and the mine. The Russians have a large U-boat fleet and plenty of aircraft capable of laying mines off the ports of western Europe. Air attack on shipping in the approaches and narrow seas is a further threat which might become particularly serious should the Allied forces have to fall back to any extent in Europe. Lastly, and possibly most serious of all, is the threat of atomic attack on our major ports, which form a most important link in the whole chain of seaborne movement.

The importance of sea communications is a truism which could with advantage be analysed. What are the requirements for seaborne movement in war? Broadly they can be subdivided into the following categories, which are primarily related to the United Kingdom :—

(*a*) Import requirements, with which can be associated such export trade as we might retain in war.

(*b*) Build-up and maintenance of our forces in overseas theatres.

(*c*) Cross trades, i.e. ships employed in trading between terminal overseas ports.

(*d*) Coastal trade, which can be regarded as an extension of the inland transport system.

Leaving aside the specialized coastal trade, it is clear that the task which absorbs by far the greatest proportion of shipping is the carriage of our imports.

Imports

In the last war the annual average of imports was approximately 15 million tons of raw materials, 15 million tons of food, and 10 million tons of oil, though in some years, notably in 1942, we imported a good deal less.

In a future war we should require consumption at much the same rate as in the past in order to continue to function as a main support area. The figures for oil would probably show some increase owing to the higher consumption rate of jet aircraft. Furthermore, it must not be forgotten that one of the primary tasks of Allied strategy in war would be the defence of western Europe. Thus the import requirements of our continental Allies would have to be added to our own. This would cause a very substantial increase in the tonnages listed above.

Import Capacity

Leaving aside financial and procurement considerations, the requirements which must be fulfilled to carry through an import programme are as follows :—

(*a*) There must be adequate shipping capacity to carry (in convoy where necessary) the required volume of imports over a given period. This capacity must include on the debit side provision for losses at sea, and on the credit side a compensating allowance for new construction.

(*b*) There must be sufficient port and inland transport capacity to discharge the ships and distribute their cargoes.

These two requirements are interdependent to the extent that the slower the turn round of ships, the greater the volume of tonnage required to meet a given import programme.

Shipping. Our own Merchant Navy has largely made good the war-time losses, and the same applies to most other N.A.T.O. countries, while the U.S.A. fortunately retains a vast reserve merchant fleet. It would, therefore, appear that the total Allied merchant tonnage, *per se*, should be adequate, provided that losses at sea can be kept within bounds.

Port Capacity. In the last war, despite heavy losses at sea, it is probably true to say that the limiting factor in the import capacity was port and inland transport capacity. One cannot be dogmatic about this owing to the close interrelationship of this factor with that of shipping capacity. At the least, one can say that this factor was a most important, and at times a critical, one in the last war.

In a future war port capacity might be very seriously affected by successful atomic attack. We do not possess many major ports, neither do our continental Allies. All of these ports are, in addition, centres of industry with large populations, and must therefore be regarded as singularly attractive targets.

It may be contended that we have a very large number of secondary ports and sheltered anchorages which could be utilized. This is certainly true, and undoubtedly a proportion of our imports could be switched to them. Certain very serious difficulties would, however, arise. First, the main arteries of our inland transport systems (particularly the railway, which is easily the principal carrier) flow from the major ports. Secondly, specialized arrangements for the discharge and storage of certain bulk commodities, such as grain and iron ore, exist, if not exclusively, to a large extent at the major ports. There would also be the difficult administrative problem of the re-deployment of dock labour.

Summary

In a future war there should be sufficient Allied shipping to carry the requisite imports into the United Kingdom, to enable the Country to function as a main support area and to meet the requirements of western Europe, provided the losses inflicted by the enemy can be kept within bounds. Port capacity may well be the limiting factor in the whole sphere of seaborne movements. This would be severely reduced if successful atomic attacks were carried out on the major ports.

Measures

Against this background, it is now possible to review the measures that might be taken.

It is clearly essential to ensure that losses at sea are kept to a minimum. This task can doubtless only be achieved by a combination of attacks at source to reduce the scale of the threat, coupled with the necessary operations at sea to protect communications. Thus it is to be hoped that an adequate shipping capacity will be preserved.

The threat to port capacity lies in strategic air attack, especially if the atomic bomb were to be used. It is, however, worth pointing out that even if the atomic bomb were not used, the cumulative effect of strategic air attack on ports with conventional weapons, combined with heavy losses at sea should they occur, might reduce the import capacity of the United Kingdom and the Continent critically.

It is equally vital to preserve adequate port capacity as it is to preserve shipping capacity. How is this to be done ? It is to be hoped that guided missiles, when fully developed, will enable something in the region of 100 per cent. destruction rate of enemy aircraft approaching our coasts to be achieved.

Such a state of affairs is, alas, unlikely to materialize for a number of years. Should war break out in the interval, it would seem a fair deduction that, unless special arrangements are made, port capacity might be reduced below the safety level.

Before considering measures in detail, two important questions which have a direct bearing on the problem must be discussed.

(*a*) How long is a third world war likely to last ?

(*b*) Arising from (*a*), is it essential for the United Kingdom to be a main support area ?

Length of War. This question, unfortunately, cannot be settled in advance. There are grounds for thinking that as weapons develop wars get shorter. The last two world wars (the high explosive era) were a good deal shorter than the Napoleonic Wars, which in their turn were shorter than the Hundred Years War. Possibly a war in which atomic weapons were used might last for a matter of months only. There are, however, a host of imponderables about this type of speculation, not least the number of atomic bombs available to either side. It is therefore suggested that the only prudent basis for planning is to assume that a third world war would be of the same order of length as its two predecessors.

The United Kingdom—Main Support Area or Advanced Base. Having made the assumption that a third world war might well last a number of years, it is now necessary to consider whether the United Kingdom must be a main support area. Broadly speaking, if the United Kingdom were to be an advanced base, a large proportion of raw materials could be cut out of the import programme. Probably food imports could also be reduced as some surplus labour from the factories could be set to work on the land.

If, however, the industrial potential of the United Kingdom were only to be used in war to a small extent, would that of the U.S.A. and the Commonwealth be sufficient to support the Allied forces? In this connection it is worth noting that American industry would probably be mobilized at the outset of another war to an unprecedented extent.

Whatever the answer may be to this last point, the following considerations would appear to be overriding :—

(*a*) In a third world war the theatre in which operations (sea, land, and air) on the largest scale would take place would be Europe (including the United Kingdom and the sea approaches).

(*b*) The supply of equipment to our forces in this theatre, and of the Allied forces who use British equipment, can most efficiently be undertaken by British industry. This would still be true even if we had complete standardization with the U.S.A., since either raw materials or the equivalent in finished products must be imported and the former is far more economical in shipping space.

(*c*) Unless complete standardization is achieved before the outbreak of war, which seems highly improbable, the supply and maintenance of our forces in overseas theatres would, initially at any rate, have to be undertaken from the

United Kingdom, since it would take time to establish the workshops and plant to service weapons and equipment supplied from another source.

It is therefore concluded that the United Kingdom must continue to function as a main support area in so far as possible. We are therefore left with the problem that food, fuel, and raw materials must be consumed in the United Kingdom at much the same rate as in the 1939–45 War. Port capacity may well be insufficient to permit this unless special arrangements are made in advance.

Special Arrangements

To compete with this problem there are two courses of action which are by no means mutually exclusive. These are to develop minor ports and to stockpile.

Minor Ports. As mentioned earlier, a proportion of imports could be diverted from major to minor ports. Unless a vast amount of development work on minor ports is undertaken, there is clearly a limit to the amount that could be diverted. Such development would fall in the main on the already over-burdened engineering industry and would be at the expense of exports or rearmament. Although no doubt something could be done in this sphere which would help matters, this course cannot be regarded as anything approaching a complete solution to the problem.

Stockpiling. The aim of stockpiling is to save shipping space in the time of war. The main commodities which account for over 50 per cent. of our total imports are iron ore, wheat, and timber. From the shipping aspect all these are interchangeable. Sugar is also one of our principal bulk imports and in terms of shipping can be regarded as wheat equivalent. It also has the advantage of being easy to store.

Before the 1939–45 War, we failed to stockpile adequately. This is brought out forcibly in two of the volumes of *The History of the Second World War—United Kingdom Civil Series* (*British War Economy*, by Professor W. T. Hancock, and *Food*, Volume I, by R. I. Hammond). To quote Professor Hancock :—

> "A most important consequence of the unrealistic forecasting of British importing capacity was the inadequate action taken to build up stocks of food and raw materials. . . When war broke out the Nation was poorly provided with the three bulk commodities and a large proportion of what was available was stored in warehouses at the major ports."

Advantages of Stockpiling

The advantages of stockpiling are clear and of an outstanding character in so far as the United Kingdom (or any other island base) is concerned. By such a policy we could ensure that in the face of atomic attack on the major ports, sufficient food and raw materials would continue to be available. Other measures—the use of minor ports and sheltered anchorages, and of air supply, including discharging ships by helicopter—would make a useful contribution if superimposed on to a central policy of stockpiling. By themselves they not only would not suffice but would impose heavy demands on the engineering industry at the expense of offensive weapons.

In addition to its principal advantages, such a policy would confer the following additional but very substantial benefit. In war, a very low level of imports could be accepted over a period of, say, three to six months. This would enable the shipping thus released to be used to accelerate the build-up of our forces in overseas theatres; alternatively, maritime forces temporarily not required for escort duties

could be switched at an early stage to an anti-U-boat offensive. In the 1939–45 War there were many occasions in which it would have paid us handsomely to have adopted either of these measures had we been in a position to be able to do so.

Lastly, the effect of this policy on morale, the single most important factor, must be considered. In a future war the strain on civilian morale is likely to be severe. If factories have to be closed down *en masse* because they cannot be supplied with materials, it is likely to have a most adverse effect on morale.

Feasibility of Stockpiling

In view of the present shortage of raw materials and of the economic difficulties with which this Country is faced, it is clearly out of the question for the United Kingdom to put such a policy into full effect from our own resources. Before the 1939–45 War the cost of a year's supply of wheat was estimated at £40 million and the annual cost of storing it at £2 to £3 million. Today the cost would be considerably greater.

Nevertheless, it would seem that a policy of establishing a really substantial stockpile (say one year's supply of food, fuel, and certain raw materials) in the United Kingdom might be effected by the U.S.A. and the Commonwealth acting in conjunction in the interests of Allied strategy. This might well apply to wheat. For example, most countries which are primary producers of grain hold very large reserves for economic reasons. A proportion of these might be held in the United Kingdom.

Owing to the general shortage of steel it is doubtful whether substantial stocks of iron ore could be built up at present, but supplies of other strategic materials might be accumulated. The U.S.A. has for some years past been employed in creating a vast strategic stockpile (eight billion dollars worth) which is reported to be about 50 per cent. complete. From a strategic point of view it would seem exceedingly doubtful whether the U.S.A. is the most suitable location for all these stocks, observing that from the standpoint of a war economy she is almost self-sufficient. It has long been recognized that an adequate level of stocks is an essential requirement in a military base. Under modern conditions this principle requires re-examining in terms of the requirements of a support area.

A policy of vigorous stockpiling would, of course, impose heavy additional peace-time demands on merchant shipping, but recently a certain amount of slack has developed in the industry of which advantage could be taken.

Conclusions

The strategic advantage to the Allied cause of creating a really substantial stockpile in the United Kingdom would be tremendous. We failed to carry out such a policy before either of the last two world wars, in both of which it would have conferred immense benefits. Should a third world war ever come, the presence of adequate stocks would be an incalculable asset.

There would inevitably be many financial difficulties to overcome to put such a policy into full effect, but it is suggested that from an economic standpoint it is both feasible and practicable.

It has been well said that our supply problem in war—a serious shortage for a limited period—is similar to that which confronted Joseph when he interpreted Pharaoh's dream.

His remedy was to stockpile.

QUARTERS AND BARRACKS

By Captain R. E. Scouller, Royal Signals

THE suggestion has recently received some currency that the time has come for the War Office to abdicate their responsibility for direct provision of married quarters, and that these should be provided by a non-profit-making agency akin to the N.A.A.F.I. Without considering the merits of the case, it is useful to have this reminder that in the past it has been no immutable part of the English military tradition that the Army should make direct provision of accommodation for either married or single officers or men.

When the Standing Army came into being, not only were barracks of any sort an exception, but there was bitter, and successful, opposition to what might appear to us to be the consequent necessity of billeting in houses. The tradition firmly persisted of the Petition of Right of 1628 which declared :—

> " to the grievous and insupportable vexation and detriment of many counties and persons in particular, a new and almost unheard-of way hath been invented and put in practice, to lay soldiers upon them, scattered in companies here and there, even in the heart and bowels of this kingdom ; and to compel many of your Majesty's subjects to receive and lodge them in their own houses, and both themselves and others to contribute towards the maintenance of them, to the exceeding great disservice of your Majesty, the general terror of all, and utter undoing of many of your people."

It has to be set against this that, even by 1697, there was calculated to be accommodation for 5,000 infantry in the entire Country. Even allowing for the almost inevitable over-estimate, and for the undoubted overcrowding, this was obviously inadequate. The estimates for the same year included provision of tents for a further 6,000 Infantry, and 4,000 Horse.[1] In the succeeding reign, the establishment for guards and garrisons alone fluctuated between 7,000 and 12,000 men.

As a consequence, the troops were visited upon a class looked upon as only a trifle less criminal and dangerous—the innkeepers. The picture is given in detail by Fortescue :—

> " There were few barracks . . . and the soldiers were scattered about in small detachments in scores and hundreds of ale-houses . . . municipalities and inn-keepers fought bitterly against the inclusion of troops within their borders . . . In Ireland conditions were rather different. There it had been found imperative to build barracks ; but these were small and widely scattered, being in fact police-barracks to hold down a hostile population.[2] Dublin was an exception . . . Until the formation of the camp at Aldershot in 1855, Dublin was the only quarter in the United Kingdom, where, at normal times, there were troops enough assembled for a brigade field-day."[3]

Thus, throughout the kingdom, the troops were scattered in tiny detachments in squalid little ale-houses in back streets and out of the way hamlets—unlettered men without supervision, subjected—and succumbing—to the temptations of

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[1] Hampden Gordon, *The War Office*, p. 148 : *Commons Journals*, xii, p. 54.

[2] Parliament voted £25,000 for barracks in Ireland on the conclusion of William's campaign—C. M. Clode, *The Military Forces of the Crown*, vol. i, p. 225.

[3] *The Last Post*, p. 20.

idleness and dissipation. That they remained serviceable as soldiers at all is perhaps largely due to the business acumen of the innkeepers, who undoubtedly knew to the last halfpenny for just how much debauchery their compulsory guests could pay.

In Ireland, although removed from the temptations of the ale-house, the troops were in such small detachments that they had no cohesion as military bodies, and were wasted away by boredom, and their sullen surroundings. The normal strength of a cavalry barracks, for example, was a troop.[4]

Although not quite so disordered as Ireland, Scotland, especially after the Union in 1707, was also looked upon with suspicion. As a result, the country was, comparatively speaking, heavily garrisoned, but the troops were not so thinly dispersed. Scotland received one of the biggest and earliest allocations of money for barrack accommodation when £9,300 was voted just after the '15. This was to provide accommodation on the lavish scale of one bed per two men.[5] The barracks justified in the 1718 estimates as " for preventing the robberies and depredations of the Highlanders " laid down a scale of five beds per room of 18 feet by 17 feet.[6]

For those parts of the Kingdom not requiring such protection, however, the citizens had to be protected against those who might in other circumstances be required to defend them. This protection was put higher than the merely negative one of defence against trespass. Quartering of soldiers in private houses without permission of the occupants was a specific offence under the Mutiny Acts. Officers in breach of this section, or bringing pressure to bear on civilians, or civilian officers, to have men so quartered, were liable to be cashiered. Conversely, any officer excusing, illicitly, an innkeeper from having soldiers billeted on him was liable to the same penalty. They were not given the right themselves to arrange quartering on innkeepers. Accommodation had to be obtained through constables or Justices of Peace, who were empowered under the 1703 and subsequent Acts to quarter in " inns, livery stables, ale-houses, victualling houses, and all houses selling brandy, strong waters, cyder or metheglin by retail to be drunk on the premises, and in no other, and in no private houses whatsoever." Innkeepers at Epsom " or similar places " were exempted since they " lodged or received water takers only." The Justices of Peace, when billeting, laid down the prices, for payment of which the officers were held responsible.

Whether, of course, those soldiers who were allotted to barracks were any better off than the majority in inns, is very doubtful. An English military dictionary of 1702 defined barracks as :—

> " A hut like a little Cottage, for Soldiers to lie in the Camp. Once, only those of the Horse were called Barracks, and those of the Foot Huts : but now the name is indifferently given to both. These are made, either when the soldiers have not tents, or when any Army lies long in a Place in bad Weather, because they keep out cold, heat, or rain better than tents, and are otherwise more commodious. They are generally made by fixing four strong forked Poles in the ground, and laying four others across them ; then they build the Walls with Wattles, or Sods, such as the Place affords. The Top is either thatch'd, if there be straw to spare, or covered with Planks, or sometimes with Turf."

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[4] Numerous refs. in *Domestic State Papers Calendar*—e.g. vol. ii, p. 102.

[5] Hampden Gordon, *The War Office*, p. 148.

[6] Clode, ibid, vol. i, p. 222.

Where permanent barracks, as the term is used to-day, existed, the standard was no doubt a trifle higher, but not strikingly so. At Sandown Castle there were " no beds, but a nasty Court of Guard where a sutler lived within a partition made of boards with his wife and family." At the Horse Guards, in 1662, " I was had into the Guard room which I thought to be hell: some therein were sleeping, others swearing, others smoking tobacco. In the chimney of the room I believe there was two bushels of broken tobacco pipes, almost half one load of ashes."[7]

In 1707, the Secretary at War wrote to the Treasury that a memorial by the captains of Lord Paston's regiment had been presented " setting forth that immediately after the regiment was raised and reviewed by His Royal Highness in the year 1704, they were ordered into the garrison of Portsmouth, where, by reason of their continuance near a year and a half, the sickness of the place, want of firing, and the badness of the barracks, the regiment was reduced by death and desertion to about one half of their number."[8] It was from the same station that there came a petition by the garrison in 1709 that they be given an allowance for fire and candle since they suffered " extremely from want " and " several have perished." No doubt, the lack of this was inadequately compensated by the provision of bedding, etc., on the scale of one sheet per soldier, and one between two of beds, rugs, blankets, and bolsters.[9]

By comparison, Woolwich, a more direct concern of the Board of Ordnance, was well treated. Each room, accommodating six privates, was allowed per day 1½ peck of coal, and one candle of 8 per lb. from 29th September to 25th March, and, for the rest of the year, ½ peck of coal with no candle. Each room was furnished with one ferrett, one coal box, two iron candlesticks, one flesh fork, one handhook, one frying pan, and one bucket hooped with iron.[10]

Detachments, on the other hand, received one wooden bushel and one wooden half bushel, plus one shovel shod with iron " for which," notes the clerk in familiar tones, " the commanding officer's receipt is to be taken, and he is then answerable." A further note states that articles such as " bellows, wooden dishes, trenchers, cans, ladles, or chamber pots are liable to be broken without due care," and therefore storekeepers were to allow £2 per year, and no more, to furnish these to non-commissioned officers and privates at Woolwich.[11]

These were the darlings of fortune, as can be guessed from the report of the detachment sent in March, 1711, to Standgate Creek. " The places where they keep guard," recorded an official report, " are two or three miles distant from each other, and as far from any house, and they are forced to stand in the open marshes to do their duty, which is so deep that they are up to their knees, so that it is impossible for them to live unless there be some guard house made or tents provided to keep them from the severity of the weather." As there is no evidence that tents were ever provided, or a guard house built, it must be presumed they found it impossible to live.[12]

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[7] Clifford Walton: *History of the British Standing Army*, p. 717.

[8] *War Office Order Book* 136, p. 3.

[9] Secretary at War's letter of 10th April, 1713: *State Papers, Military* 41/4.

[10] *Establishments*, Secretary at War: W.O. 24/45.

[11] Ibid.

[12] *State Papers Military*, 41/3.

In 1707, the Secretary at War had written to a commanding officer :—" Great complaints being made of the ill condition which the two regiments in the Isle of Wight are in from their long encampment there, and especially at this season of the year, His Royal Highness directs me to recommend it to you to provide the best accommodation you can for such of them as cannot be quartered upon public houses in the Island, by hiring either barns, or empty houses whereby the soldiers may be kept from perishing . . ." [13]

Even overseas where, in later years, conditions were to be perhaps better than at home, since billeting was not feasible, suffering was great at first.

> " Since . . . troublous possessions boasted neither inns nor inn-keepers the problem of providing the garrisons with food, fuel, and shelter was too high for our military administrators. Even in New York . . . one third of the garrison perished from sheer cold in a single winter. In Newfoundland and Nova Scotia—not genial climates—the barracks fell to pieces over the soldiers' heads."[14]

We may, no doubt, take consolation that, no matter what to-day's shortcomings or system, we do somewhat better.

[13] *Letter Book* 136, p. 28.

[14] *The Last Post*, p. 20.

THE GERMAN DEFEAT IN RUSSIA

By Squadron Leader P. C. Lambert, R.A.F.

THE Russo-German non-aggression pact, signed in August, 1939, was not destined to have a very long life. It was, at best, a marriage of convenience between two ideologically opposed States, and was fairly certain to end, violently, in divorce on grounds of incompatibility. However, it served its immediate purposes. It freed Hitler of his *bête noire*—the possibility of a war on two fronts. Also, by a secret protocol, eastern Europe was carved up between Germany and Russia, so Russia acquired "spheres of influence" in her bordering countries, Germany invaded Poland without fear of Russian intervention, and Stalin hoped that Hitler would weaken himself in the West and so cease to be effective against future Russian expansion.

With the fall of France, Hitler found himself in control of virtually the whole of Europe, with the exception of Great Britain. Unfortunately, Great Britain showed no sign of capitulation and was apparently quite unaware of the hopelessness of her position. Hitler realized only too well the true value of his pact with Russia; he knew that, should he weaken himself by abortive attacks against England, Russia might strike. Moreover, he was himself unsure of his own ability when ranged against sea power. Over a period of time, therefore, Hitler converted himself to the idea of a war against Russia, arguing that if he could not invade Britain, the British could not re-enter the Continent, and therefore his western front was secure, at least as far as land operations were concerned. Operation Sea Lion (the invasion of England) was eventually indefinitely postponed; on the 1st December, 1940, the preliminary directive for Operation Barbarossa, the invasion of Russia, was issued, and on the 22nd June, 1941, the attack began.

The progress of the campaign, the mistakes, and the lessons to be learned are of obvious interest to-day. It is proposed to examine Germany's main military mistakes, to suggest the reasons for these mistakes, and to see if any lessons can be learned from them.

Political Factors

The first casualty was the legend of Hitler's political infallibility. Hitler was convinced that Britain had come to a secret agreement with Russia, and that capitalist America would never come to the aid of a communist State. Moreover, he hoped that Japan would also attack Russia, or the British Empire, and so further the spirit of the Berlin-Rome-Tokyo axis. In fact, Japan attacked America, America came to the aid of Russia, and Russia lined up with Great Britain, where before there had been no agreement.

But the political mistakes of Germany are not the concern of this paper; although, in accepting the definition of war as the furtherance of national policy by force after diplomacy has failed, the impact of political requirements on subsequent military operations cannot be ignored. In examining the military operations, therefore, some references will be found to political features, but they have only been included where they had an immediate effect on strategy or tactics.

The *Wehrmacht* and the *Führer*

Before making any examination of the Russian campaign, an understanding of the relationship between Hitler and the *Wehrmacht* is necessary. The German General Staff had been retained during the observance of the Treaty of Versailles,

and the Treaty of Rapallo allowed close collaboration between Russia and Germany in military affairs, so that an *élite* cadre of German officers was kept in training in Russia. They and the General Staff lived for the day when the German Army should again be an effective military organization. For this reason, although the tenets of National Socialism were contrary to the traditions of the Officer Corps, its rise to power was accepted as the most likely means to achieve the resurgence of Germany as a military force. The Army imagined that it could remain aloof, leaving National Socialism to provide the money and the men, whilst retaining military affairs as the sole prerogative of the General Staff. The money—and men—were certainly provided. Hitler's rearmament programme exceeded the Army's most ambitious plans. But so did Hitler's interference in military affairs, culminating in his self-appointment as Supreme Commander of the armed forces in February, 1938.

Now, any General Staff must take its broad directions for the prosecution of a war from its Government or, as in this case in Germany, from the head of the State, who in turn should act on the advice of his political and military advisers. The head of the State may, or may not, assume the title of Supreme Commander of the armed forces, but the degree of direction he can give should be limited to these broad directives. Within this framework the military chiefs must obviously be free to plan the detail of the various campaigns necessary to implement national policy. Nor was the German General Staff incompetent; some of the greatest military theorists of this Century had been raised in its ranks. Yet this *élite* body gradually relinquished the whole of its responsibility for the day-to-day prosecution of the war to a man who had been a corporal only twenty-odd years before. The manner of this transformation is not pertinent to this paper; the results, however, were very pertinent to the conduct of the Russian campaign. During the first triumphant advance into Russia, the German commanders were given a fairly free hand. But when Winter came, with no victory, von Brauchitsch and von Rundstedt wished to withdraw to a defensive line, where the troops could be properly sheltered. Hitler would have none of this, and insisted on a continuation of the offensive against Moscow and the attacks on Maikop and Stalingrad. Von Brauchitsch and von Rundstedt were dismissed, Hitler appointing himself as army Commander-in-Chief. Milton Schulman, in *Defeat in the West*, comments:

> "As leader of the state, War Minister, chief of the armed forces and head of the army he [Hitler] could now declare war, decide how he was going to wage war, make the plans and carry them out all by himself. While it undoubtedly shortened the chain of command, it made it difficult for Hitler, the *Führer*, to dismiss Hitler, the *Wehrmacht* chief, when Hitler, the army commander, led his forces to disaster."

The Failure of Intelligence

Because he was an authoritarian, Hitler abhorred the process of reasoned discussion as a method of reaching a solution to fit known facts, preferring to rely on his so-called 'intuition'. As a result, facts were often withheld or doctored when they failed to uphold Hitler's decisions. This was aggravated, in the Intelligence field, by the existence of the military *Abwehr* and the party Security Service, each trying to outdo, and discredit, the other. Moreover, neither was particularly efficient. Assessments of the strength and ability of the Russian Army and Air Force, made during the planning of the attack, were bad under-estimates; the appearance of the T34 tank at the outset of the Russian campaign, for example, came as a shock to the German commanders.

A series of these assessments alleged a Russian inability to wage a war of movement, a lack of co-operation and battle training, and a shortage of commanders. A German intelligence report issued on the 8th June, 1941—fourteen days before the opening of hostilities—stated " The weakness of the Red Army lies in the clumsiness of its leaders of all ranks, its adherence to the doctrinaire, its training unequal to modern demands, its reluctance to assume responsibility, and its appreciable lack of organization in all its parts."[1] It is significant, perhaps, that these were some of the weaknesses of which Hitler had accused the German General Staff, and which he could be reasonably expected to welcome in his opponents.

The Failure of the *Blitzkreig*

Moulded by General von Rundstedt, the German Army had been built up on principles of modernization, and close co-operation between infantry, the air, and armour. Von Rundstedt's theories of what subsequently became known as the *Blitzkreig* were successful in Austria, Poland, Czechoslovakia, and the West. The tactics of the armoured pincer movement, followed by motorized troops to take over the ground captured by the tanks, the whole under cover of close co-operation dive-bombers and fighters, had so far proved invincible. These tactics revolutionized military thinking, and, incidentally, taught the Allies the principles they were eventually to use to defeat their teachers. But the technique of ' pincers and trap ' is only successful if the opposing troops are caught in the trap. At Dunkirk the British Army, to a large extent, escaped this trap, and came back to fight again.

In Russia, the Red Army was neither as incompetent, nor as slow, nor as clumsy as German Intelligence made out. During von Bock's drive along the Minsk–Moscow highway, considerable territorial gains were made, but the Russians were not trapped, and they were not destroyed. Three times huge encircling movements were made ; three times the Russians escaped. Moreover, the Germans now made their first mistake in the application of this technique. They wasted their strength in frontal attacks to capture towns, apparently for political purposes. Once a town is encircled a frontal attack becomes pointless, unless the town is of use to the furtherance of one's own advance, as would be a port, needed for the landing of supplies. An exception might perhaps be made in the case of capital cities, where the moral effect of their fall might affect the fighting spirit of the enemy. A town surrounded is like an army surrounded—it is neutralized, and of little further military value. The Germans lost many thousands of troops and seriously delayed their advance by these attacks. Smolensk, Odessa, Kiev, are all examples in the early phases of the campaign.

In only one case did the pincer tactics succeed. Von Bock and von Rundstedt closed their trap behind Kiev, and wiped out Marshal Budenny's force of some 600,000 troops. But by now the German advance was considerably behind schedule, and the final blow was dealt by nature when the Russian Winter arrived a month early.

The Failure of Administration

The Germans well realized the importance of a decision before the Winter set in. Von Rundstedt, in 1941, said, " Gentlemen, if you are going to conduct a war in Russia, remember that the campaigning weather ends early there. Once Winter comes, it becomes very difficult. One must start operations in Russia as soon as the swampy period is over, which is usually in May."[2]

[1] Milton Schulman—*Defeat in the West.*

[2] War Office Interrogation, Field-Marshal von Rundstedt, July, 1945.

The original plans for the invasion of Russia recognized these facts, but, unfortunately, the combination of a revolt in Yugoslavia and Anglo-Greek resistance in Greece caused the postponement of the attack on Russia until the 22nd June, 1941. Thus, the campaign not only started late, which in itself should have constituted a warning, but it also ran consistently behind schedule; not, perhaps, in terms of territory occupied, but certainly in terms of Russian armies trapped and destroyed. Yet no plans were made for a Winter campaign. On the contrary, at the end of September, Hitler ordered the disbandment of 40 infantry divisions and the return of their personnel to industry. He further ordered a decrease of production for the Army and a build-up for the Air Force and the Navy, in preparation for increased attacks against England.

As a result of this lack of foresight, the advent of Winter in Russia found the German Army and the *Luftwaffe* completely deficient in winter equipment. By the end of October snow lay thick on the ground, and tanks, vehicles, and aircraft were virtually immobilized. Winter clothing had not been prepared, and even improvised supplies, including requisitioned women's fur coats, could not be got to the front because of road and rail difficulties. Oils and lubricants for transport were also inadequate, causing serious damage to mechanized equipment. The Russians, fighting on their home ground, passed to the offensive, and, although their territorial gains were small, the psychological effect was significant.

The Failure to Maintain the Aim

By the following Summer, the Germans had brought their troops up to strength, and had re-equipped them. In the Summer they reopened their offensive and made further advances. But, by now, the Germans were running short of oil, and General Antonescu, the Dictator of Roumania, had stated that Roumania had contributed all she could.[3] Hitler was faced with the problem of finding oil elsewhere. On the eve of his Caucasus offensive he said "If I do not get the oil of Maikop and Grozny, then I must end this war."[4]

So the German armies poured across Southern Russia into the Caucasus, but only at the expense of a shortage of men farther North, where Russian resistance was now formidable. The aim of the Germans was the defeat of the Red Army. They had failed to achieve this by encirclement in 1941; now they were failing because of a diversionary aim in the South. The climax was reached at Stalingrad in October. The Russians launched a counter-offensive, initially against a sector on the Don held by a weak corps of Roumanian and German divisions. Russian Intelligence certainly indicated the weak link; German Intelligence again failed, having given assurance that there was no possibility of a serious Russian counter-offensive. By the end of the year, 250,000 German troops had been encircled, and Field-Marshal von Paulus and twenty-three of his generals had surrendered. The advance was over.

Russian Strategy

The pattern of Russian collaboration with the West shows up very clearly when any attempt is made to assess the strategy of the Red Army against the *Wehrmacht*. The German commanders have been almost too anxious to discuss, and excuse,

[3] Minutes of Antonescu-Ribbentrop meeting, February, 1942 (Nuremburg Trial Proceedings).

[4] Evidence of Field-Marshal Paulus (Nuremburg Trial Proceedings).

their failures. That the successes should invariably be attributed to the fighting qualities of the German Army and brilliant leadership of the field commanders, and that the failures should be attributed exclusively to Hitler's interference is, probably, only natural. But at least the details are available; from interrogations, captured archives, intelligence reports, the picture can be reconstructed. The strategic aims of our erstwhile Allies, however, remain a closed book. They can, in general, only be inferred from the progress of the battles.

In spite of Allied warnings to Russian ambassadors in Britain and America, the complete surprise achieved by the German invasion must be accepted. Although defence in depth has always been the linchpin of Russian strategy, the penetration of the Germans exceeded anything that the Red Army could conceivably have intended. Nothing, however, could possibly underline better the resilience and power of recovery inherent in a country where five hundred miles is only a quarter of the way to its centre. Also, nothing could explain better the current Soviet drive to make the regions beyond the Urals self-sufficient and economically powerful. In 1941, the bulk of Russia's productive capacity lay in the West, and much of it was overrun by the Germans, although this loss was made up with American and British lease-lend supplies. It is probable, however, that there was still sufficient native Russian production, even without this material aid from her Allies, to absorb in fruitless and indecisive fighting the flow of German arms and manpower. For as long as the Russians could extricate their armies they had many more hundreds of miles in which to conduct a fighting retreat. Even the occupation of Moscow would not have deterred them. In October, 1941, with the Germans only forty miles from the capital, Stalin moved the Government, Diplomatic Corps, and all industry that could be moved, over five hundred miles east to Kuibyshev—and there were still more than two thousand miles of Russian territory behind them. It is in this territorial depth that the true strength of Russia lies. The theory of the impregnable 'heartland' has been postulated by several writers, and has been tested by Napoleon and Hitler, both with most of the resources of Europe behind them, both ending in failure. The Russians in both cases carried out a fighting withdrawal into the depths of their land mass, extending the enemy's lines of communication until they threatened to break. The ensuing Winter broke Napoleon; the *Wehrmacht* managed to survive, but the Winter gave the Russians the time they needed for preparation. Although the Germans made further progress in 1942, by 1943 the flow of Russian production and the stream of Allied aid finally turned the tide against them.

Russian strategy on the offensive provided nothing unusual worthy of special comment, although the campaigns were conducted with efficiency and imagination. The Red Army in particular made excellent use of lease-lend transport to counter the destruction of the railways carried out during the German 'scorched earth' withdrawals. The German 'pincers' technique was successfully employed, as was the tapping of selected points along a wide front, first employed by Lord Haig in 1918. Little sign was shown of any lack of mobility, training, or command.

The Lessons

The military lessons to be learned from the Russo-German campaign should be considered under two broad headings. First, those lessons of general interest to all students of military affairs, and secondly those peculiar to any conflict with the Soviet Union.

In the absence of other evidence, the theory of Hitler's interference as an explanation for many of Germany's military mistakes could be attributed to the German commanders' desire for a scapegoat—particularly one who could not answer back. But the capture and examination of the bulk of the enemy military archives does lend much credence to this theory, and underlines the danger of over-centralization of control. A commander-in-chief can never effectively control the day-to-day tactical situation on fronts hundreds of miles from his headquarters. It would also appear that the *Wehrmacht* suffered from over-discipline. Even though subordinate commanders knew that their obedience to faulty orders was losing the battle, they made little or no attempt to act contrary to those orders. Like most virtues, discipline carried to excess becomes a fault.

The incompetence of German Intelligence, in view of the prevailing war-time opinion of its excellence, is somewhat surprising. It cannot be explained by the efficiency of Russian security, because this weakness extended to all fronts. A post-war examination of the *Abwehr*, and the Party Security Service revealed an incredible mass of carefully documented military and political trivialities collected from all parts of the world, but little evidence of any attempt to grade or collate it. This, combined with Hitler's incapacity to accept anything that disagreed with his own desires, made German Intelligence largely ineffective. Efficient collation and grading are essential parts of any intelligence system.

Maintenance of the aim is a cardinal principle; for a military commander this aim must invariably be the neutralization of the enemy's forces. The word neutralization is deliberately used, as the aim may be achieved by destruction, or capture, or encirclement of these forces, or even the denial to the enemy of the means of equipping and supplying them. The *Blitzkrieg* techniques finally failed for this reason; the Russian forces were not neutralized. Similarly, the German capture of Caucasian oil fields, and their pre-occupation with frontal attacks on towns, whilst, perhaps, politically advantageous, were all distractions from what should have been the primary aim of the *Wehrmacht*.

To deny the enemy the means of equipping and supplying his forces automatically ensures the neutralization of those forces; to fail to ensure such facilities for your own forces may be military suicide. The German invasion of Russia was based on a quick victory before the Winter, consequently no provision was made for winter equipment. The combination of a gross under-estimate of Russian powers of resistance and a sublime faith in their own invincibility nearly cost the Germans the Russian campaign in the first Winter. The lesson is obvious, and needs no elaboration.

The mistakes, and lessons, so far considered are valid under any circumstances. There are, however, some factors that are peculiar to operations against Russia, or, at least, against any Power with the territorial depth and economic self-sufficiency of Russia. One factor in particular increases in importance in direct relationship to Russia's dispersal of her industry. Were the whole, or the major part, of Russia's industrial strength located in the West, then the occupation of this area would, in the absence of external aid, effectively cripple Russian resistance; even her vast manpower resources would be useless unless adequately equipped. But the dispersal eastwards of Russian industry necessitates even deeper penetration by attacking surface forces. The more the problems of maintenance and supply over perhaps thousands of miles of land communications are examined, the more unlikely becomes the possibility of a successful land campaign deep into Russia. As the external

surface supply lines of the attacker become increasingly stretched and vulnerable, the internal lines of defence shorten, and so become more secure, until eventually the effort of maintaining the invasion becomes beyond the capacity of the invader. Only direct attacks against the Russian productive capacity and general economic system offer any hope of countering her inherent territorial advantages. Germany could have been defeated by the Allies, though at greater cost, even in the absence of the attacks against her economic system, and Japan was virtually defeated before such attacks became possible. But Russia could never be defeated, except perhaps at prohibitive cost, unless her productive capacity were smashed, and this can only be achieved by strategic bombing attacks.

If war with Russia ever occurred, then the concept of strategic bombing as an essential part of overall national policy will be vindicated beyond all shadow of doubt.

BACKGROUND TO KOREA[1]

By Major R. C. W. Thomas, O.B.E., R.W.K.

IT is unpleasant to contemplate that, even if cease fire talks in Korea are eventually successful, there can be no permanent peace until agreement has been reached by political negotiators. At the same time, judging from past experiences, it seems likely that any political talks that are started may well last for years, during which time it will be impossible for the United Nations to make any appreciable reduction in the strength of their forces in the country.

Therefore it seems likely that Korea will remain an overseas commitment for our armed forces for a number of years to come, so that some general information about the country, its people and customs, will perhaps be of interest to those who in the future can expect to have to serve their turn in this far distant land.

Geography and Climate

Korea is a mountainous peninsula about 530 miles long and 135 miles wide, which projects southwards out of Manchuria. It is separated from Japan by the Sea of Japan, and from China by the Yellow Sea. The country is closed in on the northern and eastern sides by rugged mountains, which extend the whole length of the peninsula and in places reach a height of over 3,000 feet. There are also extensive mountains in the central area.

Korea has four distinct seasons which occur at about the same time as the seasons in England. Spring and Autumn are very pleasant, but the Winter is often severe with biting winds, heavy falls of snow, and temperatures well below zero. The rainy season occurs in July and August, with regular heavy downpours lasting up to 48 hours, followed by intense sultry heat. Although typhoons are common in the area, they seldom reach Korea, but minor earthquakes are not uncommon.

Population and Towns

The population of the whole of Korea is about 28,000,000, of whom some 8,000,000 now live under Communist control in the area to the North of the 38th parallel.

The most important towns that lie South of the parallel are Seoul, Inchon, Pusan, Taegu and Taejon. The first is the capital city of the new Republic of Korea, and is situated near the West coast, only some 40 miles South of the 38th parallel. It lies on the River Han which has its outlet to the Yellow Sea through the small port of Inchon. Before the war Seoul must have been a comparatively modern city, with many fine buildings and places of historic and scenic interest. But to-day it has been ravaged by war, and it will need a large reconstruction programme to restore the city to its former glory.

On the extreme southern tip of the peninsula there lies the town of Pusan, which is the main port. Possessing a good natural harbour, it has now become the main base of the United Nations forces. However, due to the influx of many thousands of refugees during the last two years, the town itself has become a place of indescribable filth through lack of adequate housing and sanitary facilities for the increased population.

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[1] A sketch-map of Korea faces page 120.

Finally, the towns of Taegu and Taejon lie on the road and rail routes that connect Pusan and Seoul. Before the war, both places were important industrial and agricultural centres due to their good communications, but once again both towns have now been severely damaged by the fighting.

Communications

It is interesting to note that up to 1939 it was possible to travel by rail from Japan to Western Europe. A passenger could cross by rail ferry to Pusan, and then travel North through Korea to Manchuria, where a connection could be made with the trans-Siberian railway running to Moscow and Berlin. An alternative rail route also ran up the East coast to Wonsan and thence to Vladivostok. To-day much of the railroads and stock in Korea has been destroyed, although the main line between Pusan and Seoul is now open for limited traffic.

Road routes in Korea have always been of a primitive nature, and not to be compared with the railway system. However, the United Nations have improved considerably the roads throughout the country, and a fairly good main route now joins Pusan and Seoul. The war has also resulted in the development of numerous airfields, and two large aerodromes now exist at Pusan and Seoul.

Resources

As a country Korea is rich in minerals, but unfortunately the main resources are located North of the 38th parallel. To the South of this line, the most important industries are spinning, silk and rayon weaving, and some coal mining.

Three-quarters of the inhabitants are engaged in agriculture, but due to the mountainous nature of the terrain, the availability of land is very limited. The majority of the agricultural land is given over to the growing of rice, but a fair amount of fruit, barley, and millet is also produced. There is very little livestock in the country to-day and it is a rare sight to see a cow, sheep, horse, or even a dog.

The cultivation of timber is vital to the economy of Korea, as it is needed for building materials, fuel for heating and cooking, and to provide power for the smaller industries. Unfortunately, the main timber resources are located North of the 38th parallel, so that there is an acute shortage of this vital commodity in the South.

Surrounded on three sides by water, the Koreans have always reaped a rich harvest of fish, which is valuable for food and the making of fertilizers.

At the present time the economy of Korea is adversely affected, due to the fact that the Communists control the majority of the minerals and timber, while at the same time they are short of agricultural resources. Conversely, the South is rich in agriculture, but the development of other industries is being handicapped due to the lack of minerals and power, which normally would come from the North.

Political Background

At the end of the 1939–45 War, Korea was divided into two separate zones based on the line of the 38th parallel. The northern zone was occupied by Soviet Russia, and the southern zone by the United States. During the period 1945 to 1948, numerous attempts were made by the United Nations Assembly to unite North and South Korea under one central government, but all efforts were baulked by Soviet Russia. Eventually, in 1948, a United Nations Commission organized a general election which resulted in the creation of the Republic of Korea, headed by President

Syngman Rhee. However, North Korea refused to take part in these elections, and shortly afterwards Soviet Russia announced the formation of a Communist Korean People's Democratic Republic.

For the next 18 months, the United Nations Assembly continued its efforts to unite the two Governments without any success, and these efforts ended on 25th June, 1950, when, without warning, South Korea was invaded by the Communists.

To-day, the United Nations, excluding Soviet Russia and her satellites, are allied to the Republic of Korea and support the Government of Mr. Syngman Rhee, who is still President of the Republic. This Government now controls that part of Korea held by the United Nations forces, which once again roughly corresponds to the part of the peninsula South of the 38th parallel. The remainder of Korea, North of the parallel, still remains under Communist control.

Korean People

In the main, the Korean people descend from the Mongol family, and their history goes back for over 4,000 years. It is usual for Koreans to have dark brown hair and high cheek bones, which gives them an appearance of grace and pride. As a race they are extremely polite and friendly but on occasions are subject to fits of hot temper. They have a deep sense of beauty, and are content to spend their leisure time gravely contemplating the beauties of the countryside. Like most Orientals the Korean often displays a sober countenance, but this, in fact, covers a keen sense of humour.

The way of life of a Korean is greatly influenced by religious beliefs, either Buddhism or Confucianism, but this does not prevent him having an intense fear of spirits. The average Korean still believes that the world is full of spirits who share his house, command his fields, rule the hills, and who have no other aim but to harass him from the day he is born. In consequence, he goes through life seeking to pay homage to every known god, in the fear that he may anger any one of them if ignored. He puts sticks in the roof of his house on which tired demons can rest, and walks cautiously through doorways in the fear of disturbing a devil sitting on the porch. When he buys a house, the first question he asks is what spirits inhabit the dwelling place. Finally, in towns, many road accidents occur through Koreans running in front of motor cars, in the hope that a pursuing spirit will be left behind and run over.

In a household, the man is, of course, the dominant member, and he lives a life of comparative leisure compared with the female, who is expected to work from dawn to dusk at all the domestic and family chores. Koreans are fond of many sports and games, ranging from basket-ball, hockey, and football, to swinging and kite flying. It is also considered great fun for village teams to indulge in stone fights, despite the casualties that occur.

Local Customs

Customs are varied and colourful as in most eastern countries, and throughout the year many festival days are celebrated. Activities on these days include eating soya beans, washing the hair, hanging out lanterns, visiting the graves of ancestors, and giving presents. Some of the festival days have charming names and legends, such as the " Bath of the Daffodil," and the day when it is believed that two stars, who are husband and wife, meet once a year, coming across the Milky Way on a bridge formed by all the magpies who fly up from the earth.

With regard to the customs of the people themselves. An old man always wears a peculiar hat shaped like a birdcage, which denotes that he is over fifty and entitled to respect. A girl old enough to marry wears her hair long, which is changed to a bun when she is married. Funerals are solemn affairs with food and wine offered at the grave for the spirit of the dead person. White mourning is worn for a father, mother, or son, but no mourning is worn for a wife, for it is considered that she can be easily replaced.

Conclusion

Before the present war, Korea was often described as the Switzerland of the Far East, because of the beauty of its scenery, the gay colours of its countryside, and its atmosphere of peace. But to-day, through force of circumstances, it has become a land divided against itself, devastated by war and with a future that is impossible to forecast.

All that can be hoped is that when the war is eventually over, the United Nations, who have fought for its liberty, will continue to do all they can to help its inhabitants to re-establish their country ; not as a militant nation, but as a peaceful place as once it was, when Korea was called the " Land of the Morning Calm."

BRITISH COMMONWEALTH NAVAL OPERATIONS DURING THE KOREAN WAR—PART IV[1]

[*The first three parts of the narrative of British Commonwealth naval operations during the Korean War were published in the* JOURNALS *for May and November,* 1951, *and May,* 1952—EDITOR.]

DURING the period from November, 1951, to June, 1952, Armistice talks yielded no tangible measure of agreement; a state of deadlock reigned, disheartening and disquieting. The war at sea followed the pattern described in previous narratives, with one exception. Commonwealth naval forces accepted an additional commitment—a campaign among the islands off the West coast of Korea within an area about the western end of the mainland front.

These islands are for the most part manned by guerilla forces of each side. There have been raids and counter-raids and many islands have frequently changed hands. The Commonwealth naval forces, in supporting guerilla operations to maintain and extend control in this maritime area, have frequently come within easy range of enemy shore batteries. Several ships have been hit but damage has been slight and casualties few. Some of the operations are described in the section on West coast operations.

That there was no slackening of the calls made on Commonwealth naval forces is indicated by the following list, showing the number of days spent at sea by Commonwealth warships operating off the West coast in the 29 days from 8th February to 8th March, 1952. Where a ship left or joined during the period the total number of days on which she was available is show in brackets :—H.M.S. *Glory* 20; H.M.S. *Belfast* 14; H.M.S. *Ceylon* 21; H.M.S. *Cossack* 21 (24); H.M.S. *Charity* 16; H.M.S. *Cockade* 11 (19); H.M.S. *Concord* 21; H.M.S. *Cardigan Bay* 23; H.M.S. *Mounts Bay* 20 (23); H.M.C.S. *Cayuga* 19; H.M.C.S. *Athabaskan* 19; H.M.C.S. *Nootka* 21 (25); H.M.C.S. *Sioux* 4 (7); H.M.A.S. *Warramunga* 25; H.M.A.S. *Bataan* 20; H.M.N.Z.S. *Taupo* 26; H.M.N.Z.S. *Rotoiti* 21.

WEST COAST OPERATIONS

The principal naval activity beyond the routine blockade duties was concerned with the security of certain islands fringing the West coast and in the river estuaries, some of strategic importance. Navigation among these islands is difficult owing to the ever-changing positions of shoals, insufficient navigational lights, and unreliability of charts. In these difficult circumstances the naval forces operated to maintain control of the maritime flank. The islands, garrisoned from time to time by irregular troops, frequently change hands, the enemy possessing large numbers of small craft capable of traversing mined waters.

To galvanize the islands into some form of effective defensive measures and to co-ordinate army and air force activities in the areas, the Commanding Officer of H.M.S. *Mounts Bay* organized a system of inshore and covering patrols towards the end of the year. The task of the outer circle of ships was to keep the enemy approaches from Amgak and the Chinnampo estuary illuminated by star shell during critical periods in the dark hours, and this operation became known as " Smoking Concert " under the command of " Sitting Duck," otherwise the senior officer of the ships present—either H.M.S. *Mounts Bay* or H.M.S. *Whitesand Bay.*

The ' battle of the islands ' was described as follows in a release made to Press correspondents in the Far East in mid-March. It stated :—

[1] A sketch-map of Korea faces page 120.

" For a hundred days ships of the British Commonwealth and United States Navies, assisted by small craft of the Republic of Korea Navy, have fought a ' battle of the islands ' off the coasts of Korea.

" Certain of the many islands which lie close to the Korean mainland, principally off the West coast, are of strategic importance to the United Nations forces and the Navy was given the task of retaining them.

" To maintain their day and night guard, the ships of the U.N. Fleets risk critical navigational hazards in the shallow waters of the estuaries and experience constant bad weather at this time of the year. They are often under fire from big shore batteries of 105 mm. and 76 mm. mortars and guns. Several ships have been hit, although none seriously, and all have come under fire. H.M.S. *Constance* had a hole two feet in diameter blown in her plating by the explosion of a shell which hit her above the water-line.

" The enemy began his push to invade the islands at the end of November. About 1,000 of them came in junks and small boats under covering fire from shore guns, and the lightly-held Taewha-do in the Yalu Gulf fell to them. British personnel left behind in the evacuation were Sub-Lieutenant D. A. Lankford, R.N.V.R., and Photographer D. Penman who had been ashore to obtain ciné and news photographs.

" H.M.S. *Cockade* sank several invading junks and one patrol vessel in this action and was herself under fire from the shore batteries. She suffered the loss of one able seaman killed.

" Among the ships which have taken part in the operations are the British cruisers *Belfast* and *Ceylon*, the U.S. cruisers *Rochester and Manchester* ; the British destroyers *Cossack, Cockade, Charity, Comus*, and *Constance* ; the Canadian destroyers *Cayuga, Athabaskan, Sioux*, and *Nootka* ; the Australian destroyers *Warramunga, Tobruk, Anzac*, and *Bataan*, and the frigate *Murchison* ; the Netherlands destroyer *Van Galen* ; the British frigates *Mounts Bay, Whitesand Bay, Cardigan Bay*, and *Alacrity* ; the New Zealand frigates *Rotoiti, Taupo*, and *Hawea* ; and U.S. ships *Taussig, Fletcher, Porterfield, Eversole, Gurke*, and *Comstock*, L.S.T.s, and rocket ships Nos. 401, 403, and 404, and tugs *Apache, Abnaki, Yuma*, and *Arikari*.

" Aircraft from the British light fleet carrier *Glory*, the Australian light fleet carrier *Sydney*, and the U.S. light carriers *Badoeng Strait* and *Bairoko*, shared the duties of air support and reconnaissance.

" By day, under cover of the big guns of the cruisers, the destroyers and frigates went close inshore to shoot up suspected strong points and hunt out shore batteries. But the batteries were usually mobile and cleverly camouflaged and rarely did the enemy give themselves away to the watching aircraft. At night the ships took turns to illuminate the narrow channels between the islands and the mainland with star-shells and rocket flares.

" Seamen and Royal Marines from H.M. ships, together with U.S. and Republic of Korea personnel, patrolled in small boats investigating junks and keeping physical contact with the islands at night. Ship's radar swept the seas to locate enemy craft.

" Intense cold and a five-miles-wide track of pancake ice, some large enough to hole a ship, added to the difficulties of the operations. Temperatures fell as low as nine degrees Fahrenheit. At times tugs had to cut a way through the ice for the warships to proceed.

"All the ships have come under heavy mortar fire. H.M.S. *Constance* was again hit by splinters from mortars and U.S.S. *Porterfield* was hit at the base of her funnel while proceeding at 20 knots. The same batteries shelled U.S.S. *Fletcher*, *Apache*, and H.M.C.S. *Sioux* on several occasions; in return the batteries have been under fire from U.N. ships, and the U.S. cruiser *Rochester* and the British cruisers *Belfast* and *Ceylon* have carried out intense bombardments of batteries on the Amgak peninsula.

"When the *Ceylon*, with the destroyers *Constance* and *Sioux*, the frigate *Alacrity*, and U.S.S. *Comstock*, were repelling an attack in the Sokto area, off the mouth of the Taedong estuary, they were heavily shelled by the Amgak batteries. Dodging a rain of shells, the *Sioux* engaged with considerable success enemy troops crossing the mud flats that link the islands at low tide.

"The *Sydney's* aircraft got a direct hit on one of these guns of Amgak and the *Badoeng Strait* repeated the attack the next day. The *Ceylon*, U.S.S. *Manchester*, *Comstock*, and *Eversole*, and the British frigate *Alacrity* silenced batteries which opened up on the islands."

During these operations among the islands naval forces have been responsible for the evacuation of refugees. By early March the flow of refugees had been reduced to a trickle and the final lift was made from the island of Sok-to.

In April and early May there was little enemy activity. It was believed that enemy troops were turned over in large numbers to assist farmers—preparing for ploughing and rice planting. Fishing activity also increased. Both the Communists and the South Koreans had large numbers of fishing craft at sea. There was a fleet of about 800 friendly fishing junks which presented a considerable problem to the blockading forces, which were compelled to organize a system of fishery protection, licensing, and control. Up to five police junks, armed with light weapons, patrolled round this friendly fleet inspecting all newcomers to ascertain that there were no Communist intruders and to prevent the junks from getting too close to the enemy-controlled coastline.

Further enemy attempts to occupy islands were frustrated in June by H.M.C.S. *Athabaskan* and H.M.S. *Comus*.

The Minister of Defence (Field-Marshal Lord Alexander of Tunis) visited Inchon on the afternoon of 15th June when H.M. ships *Belfast*, *Ocean*, *Ceylon*, *Amethyst*, and *Consort* were in company. He spoke to the assembled ships' companies in the three larger ships, the officers and men from the smaller ships being sent over to the *Belfast* and the *Ocean*. After he left, the fleet sailed in company to carry out further operations.

East Coast

Off the East coast, where the major responsibility is accepted by American naval forces, there was little significant activity. In November, H.M.A.S. *Tobruk*, H.M.C.S. *Sioux*, and H.M.N.Z.S. *Taupo* all had spells of duty with this group. The *Tobruk* claimed several successes against targets in the Songjin area and the *Taupo*, although not designed for heavy coastal bombardments, joined in with her single 4 in. gun and claimed the destruction of many targets, including bridges and tunnels.

A co-ordinated air, gun, and rocket strike was made against Hungnam, the important industrial and communications centre 100 miles North of the 38th parallel, on 20th and 21st November. This operation was under the command of Rear-

Admiral A. K. Scott-Moncrieff, flying his flag in H.M.S. *Belfast*. Australia was represented by the aircraft carrier *Sydney* and the destroyer *Tobruk*; Canada by the destroyer *Sioux*; Great Britain by the cruiser *Belfast* and destroyer *Constance*; the United States by the destroyer *Hyman* and three rocket-carrying landing ships; and the Netherlands by the destroyer *Van Galen*.

Shortly after dawn the guns of the fleet opened fire on known A.A. positions to silence them before Sea Fury and Firefly aircraft swooped down to carry out the first of ten attacks, with barracks, industrial plants, stores, and rail communications as their targets. Alternating with the air attacks were bombardments from the cruiser and destroyers, carried out with aircraft spotting the fall of shot and adjusting it on to selected targets.

Fires were started in the target area and a large number of targets were completely destroyed and many others severely damaged. In the evening, three rocket ships moved slowly into position close inshore, covered by the bombarding force. For 35 minutes these three ships rained their rockets down on the city area, causing much damage to war industries. During the two days, over 200 tons of explosive fell on Hungnam targets; the *Sydney's* aircraft flew more than 100 sorties.

Hungnam was mined-in by the enemy after the withdrawal in 1950, and the operation was made possible by the long and patient minesweeping operations carried out under difficult and dangerous conditions by a U.S. minesweeping group under the command of Captain R. C. Williams, Jr., U.S.N. Both the striking force and the minesweeping force were under the overall command of Rear-Admiral George C. Dyer, U.S.N. Hungnam shore batteries had previously been aggressive, but on this occasion they surprisingly failed to fire a single round against the inshore bombardment forces.

The 41st Royal Marines Independent Commando, which for some time had maintained two troops on the islands of Yo-do and Mo-do, off Wonsan, carried out raids on the nights of 4th and 5th December, parties landing from the U.S.S. *Horace A. Bass*. Although they met with some opposition they damaged railway tunnels and inflicted casualties. Four men of the Commando were slightly wounded.

After a successful raid against enemy sampans in Wonsan Bay on 23rd December, the Commando was withdrawn for return to the United Kingdom. They were replaced by Republic of Korea marines. On Christmas Eve they arrived at a base in Japan after 16 months' active operations in the Korean theatre.

The following message of commendation was sent by Vice-Admiral Joy, Commander Naval Forces in Korean waters, to the Commando :—

> "It is with the greatest pleasure that I commend the officers and men of the 41st Independent Royal Marine Commando. Your superb achievements have been a source of inspiration to freedom-loving people the world over and will go down in history's brightest pages. You have contributed in no small measure toward arresting the forward momentum of the Communist threat to world peace.
>
> "Since the inception of the 41st in August, 1950, your courageous combat record against overwhelming odds in the many months of hard fighting has reflected the highest credit upon yourself and your brothers in arms in other branches of the U.N. forces in the field. On behalf of the naval forces in the Far East I extend most sincere appreciation for a job well done."

Lieutenant-Colonel F. N. Grant, R.M., who was in command of the Commando, replied :—

"Deeply appreciate your message. It has been an honour and a pleasure to serve under U.S. naval forces. Support, co-operation, and kindness have always been given us in full measure. It is with real regret that our operations are terminated and we leave your command. We are particularly proud to have been under the 1st Marine Division at the Chosin Reservoir action, thus adding another page to the history of joint actions of the two Corps."

Early in February H.M.S. *Alacrity* came under fire in the Songjin area from what appeared to be an anti-tank gun firing from 3,000 yards range. Six hits were scored but no serious damage or casualties were suffered. H.M.N.Z.S. *Taupo* and H.M.A.S. *Warramunga* were fired on on 20th February when the enemy launched an amphibious attack in junks and sampans against the island of Yong-do. They landed but were later driven out by the island's defenders and the *Taupo* sank 15 sampans and estimated she killed 250 Communists as they retired. The mainland battery caused some small holes in the *Taupo's* side but there were no casualities. H.M.S. *Morecambe Bay* had her wireless aerial shot away by shore batteries at Chongjin on 9th March. In the same area H.M.S. *Cossack*, on a successful three-night patrol, shot up three trains and damaged seven others.

The enemy stepped up his coastal defence armament in April and early May in order to protect vital supply lines which had been harassed at night by United Nations warships, including H.M. ships *Constance* and *Cossack* and H.M. Australian ships *Warramunga* and *Bataan*. United Nations minesweepers working close inshore, and covering forces, were fired on frequently.

While bombarding a road and rail communications centre in the Songjin area, H.M.S. *Concord* came under heavy fire from shore batteries on 23rd April. The shore batteries hit one of the destroyer's gun positions, killing two ratings and injuring four others. Little structural damage was suffered and the ship returned the enemy fire and resumed her patrol. Before this incident H.M.S. *Concord* had been attacking batteries at Chongjin for several days. She also captured five enemy junks and set on fire one which attempted to escape.

Air Operations

For some time the aircraft carrier element in western Korean waters has consisted of one Commonwealth carrier and one U.S. carrier. In November, the duties were being shared by H.M.A.S. *Sydney*, who had earlier relieved H.M.S. *Glory*, and U.S.S. *Rendova*. The *Sydney* was mostly engaged on the West coast but moved over to the East coast to take part in Operation Athenaeum—the co-ordinated air, gun, and rocket strike against Hungnam on 20th–21st November, which is described in the East coast section. During this period the *Sydney's* operations were hampered by extremely rough seas, high winds, and snowstorms, but her Sea Fury and Firefly aircraft nevertheless flew 270 sorties.

During the attack on Hungnam her aircraft carried out an extensive two-days strafing of military targets with bombs and rockets, and destroyed many important installations, started large fires in industrial areas, and severely damaged harbour installations and railway communications. Her aircraft also spotted for the guns of H.M.S. *Belfast*, H.M.A.S. *Tobruk*, and the Netherlands destroyer *Van Galen*.

On returning to the West coast the *Sydney* resumed attacks on enemy lines of supply and communication, and one mission of eight Firefly aircraft destroyed four

bridges with 16 bombs. Her aircraft also provided close air support for United Nations troops in the front line and spotted for H.M.S. *Ceylon* and H.M.S. *Mounts Bay*. Her tally at this point included a large number of junks and railway bridges destroyed or damaged.

Towards the end of the year the *Sydney* returned to harbour after one patrol off the West coast, having flown 385 sorties against enemy targets, although weather was bad during the latter part of the patrol, high winds and heaving swell reducing her activity. Nevertheless, her average daily number of sorties was well over 50. She had directed her attention mainly against enemy shipping, troop concentrations, and gun positions in order to assist in the prevention of an enemy build-up during a lull in front line fighting.

Dawn to dusk reconnaissance of the enemy-held coastal areas showed numerous junks and sampans, which were attacked with rockets and strafed by the Sea Fury aircraft, resulting in 16 junks and 21 sampans being destroyed and 51 junks and 37 sampans damaged. It was estimated that heavy casualties were inflicted on enemy troops during low level strafing runs by both her Firefly and Sea Fury aircraft. Five gun positions were knocked out. Air spotting was carried out for the guns of H.M.S. *Constance*, H.M.S. *Alacrity*, H.M.S. *Whitesand Bay*, the Netherlands ship *Van Galen*, and U.S.S. *Edmonds*.

In a following patrol the *Sydney* experienced arctic weather conditions—snowstorms, high winds, and temperatures far below freezing, but her squadrons nevertheless flew 362 sorties against a variety of enemy targets. During the patrol the 2,000th operational sortie was flown. The Fireflies were engaged in interrupting enemy rail transport by attacking bridges and tunnels; 10 railway bridges were destroyed and three damaged. Her Sea Fury aircraft carried out rocket attacks against enemy defences and gun positions and inflicted heavy casualties on enemy troops. Rear-Admiral A. K. Scott-Moncrieff witnessed some of the operations during a day spent on board when he transferred from H.M.S. *Belfast*.

On 26th January the *Sydney's* tour of duty ended and she left the United Nations forces to be relieved by H.M.S. *Glory*. The *Glory*, escorted by H.M.A.S. *Warramunga*, returned to the war zone for a second tour of duty after a refit at Sydney. She was joined off the West coast by H.M.S. *Concord* and U.S.S. *Marshall*.

The *Glory's* first period of operations was favoured by good flying weather and she was able to show that she had lost none of her previous skill, although she had a considerable proportion of new pilots on board. In March, there were some bad flying days, but the aircraft of the 14th Carrier Air Group stepped up the number of sorties flown, and in one day she put up 105 sorties, each of normal duration. This was a record for a light fleet carrier and brought congratulatory signals from both American and British Commanders. In dawn to dusk sorties the aircraft silenced enemy gun positions, strafed invasion boats, and damaged a boat yard. They dropped 70 bombs and fired over 400 rockets at targets which included an enemy troop headquarters and store houses. Enemy troops working on a bridge diversion were killed or scattered. At one time every aircraft in the *Glory*, except one previously damaged, was airborne. All aircraft and all pilots flew three normal full length sorties during the day, and some completed even four; a triumph of organization in which the whole ship's company shared, particulary the deck handlers and technical crews. The *Glory* was screened at various times during this patrol by destroyers of three nations, including H.M.A.S. *Warramunga*, H.M.C.S. *Nootka*, and U.S.S. *Monroe*.

About this time the *Glory's* two tours of duty in the war zone had brought her number of sorties flown to 4,000, and in 12 patrols she had steamed 77,000 miles.

In a subsequent patrol the *Glory's* Sea Fury aircraft, though not designed for such work, were armed with bombs instead of rockets. The results showed that the Sea Fury is a successful dive-bomber, and that the type of target available on the West coast can be hit harder by the bomb than by the rocket.

The *Glory's* second tour of duty was now drawing to a close and during her last patrol Captain T. A. K. Maunsell, R.N. flew to the ship in a U.S. Avenger aircraft to take over as Commanding Officer from Captain K. S. Colquoun, D.S.O., R.N. By early May the ship had completed her task and was relieved by H.M.S. *Ocean*. Since leaving the United Kingdom in January, 1951, she had then steamed some 85,000 miles, operated off four continents, made more than 6,400 aircraft landings, and had been screened by more than 60 destroyers of five different nations.

The 14th Carrier Air Group had set up a conspicuously high standard of operational flying, often against determined flak opposition, in providing support for ground and naval forces on the West coast, harassing the enemy's lines of communications, and attacking his built-up areas.

No. 804 Sea Fury Squadron and No. 812 Firefly Squadron flew some 4,835 operational sorties—a total of 11,860 flying hours. The cost of this extensive effort was 27 aircraft lost and more than 140 damaged, but the Air Group completed 4,838 deck landings with only 13 accidents; 16 pilots flew more than 130 sorties and Lieutenant K. Whitaker, R.N., flew 149. A total of 24 aircrew were recovered from aircraft which crashed or were shot down, and the ship suffered the loss of nine aircrew killed and one wounded. The last 939 deck landings were completed accident free on 17th March.

The *Glory's* aircraft hit the enemy with nearly a million rounds of 20 mm. cannon shells, 14,000 rockets, and well over 3,000 bombs, inflicting heavy and widespread damage on enemy road and rail communications, gun positions, barracks, bridges, store dumps, and other targets. They also gave close support to the ground forces, particularly Commonwealth forces, spotted for naval bombardments, and assisted the warships in their defence of the strategic islands of the West coast.

When she relieved the *Glory*, H.M.S. *Ocean* flew a remarkably high sortie ratio and soon bettered the performances of all her predecessors—H.M.S. *Glory*, H.M.S. *Theseus*, H.M.S. *Triumph*, and H.M.A.S. *Sydney*. In one day the pilots of her two squadrons, No. 802 (Sea Furies) and No. 825 (Fireflies), flew a total of 123 sorties against enemy-held positions, beating the *Glory's* record of 105 sorties in a day.

During this operational flying the *Ocean's* pilots destroyed three railway bridges, an oil fuel dump, many coastal gun emplacements, 15 vehicles loaded with ammunition, and attacked numerous troop encampments and store dumps. In all these attacks 72 bombs were dropped and 456 rockets fired. The *Ocean's* record was set up only four days after she returned to the operating area, and during this period her pilots dropped 279 bombs and fired 2,004 rockets.

Operations of Royal Fleet Auxiliaries.

The work of supplying the fleet continued efficiently but almost unnoticed, yet without the valuable support of Royal Fleet Auxiliaries in all weathers, warships of the United Nations Fleet could not carry out their duties.

Some idea of the importance of the work carried out by these ships was made known when one of the tankers, *Wave Chief*, returned to the United Kingdom in March. In the course of 66 oiling at sea operations, she had pumped 37,000 tons of oil and aviation spirit into ships of the Royal Navy, the Royal Canadian Navy, the Royal Australian Navy, the Royal New Zealand Navy, the United States Navy, and the Royal Netherlands Navy. But the *Wave Chief* is, of course, only one of the Blue Ensign ships which have fuelled, armed, clothed, and fed the United Nations Fleet in Korean waters.

Of some 70 fleet auxiliaries operated by the Admiralty, about one-third have contributed to the Korean war effort, by carrying fuel and other military stores to the East, and distributing these stores to ships in the Korean zone of operations. In less than two years some 90,000 tons of fuel were transferred at sea and a further large quantity was transferred to ships in port.

Often these fuelling at sea operations involve the passing of fuel hose from ship to ship while they steam at from 12 to 15 knots. The work is carried out in the competitive spirit of sporting events and ships' companies are still trying to beat the record set up by the *Wave Knight* and H.M.C.S. *Athabaskan* when—105 seconds from shooting the pilot line—the pumping of fuel began.

To the men of the British Commonwealth Fleet the *Fort Rosalie* has probably been the best-known Royal Fleet Auxiliary. She operated in the area for more than 18 months and returned to the United Kingdom in June. During her service in Korean waters she supplied a large proportion of the ammunition used by Commonwealth ships and inspected, repaired, and replaced guns worn out by heavy bombardments. Nearly 9,000 tons of bombs, rockets, and small arms ammunition together with miscellaneous pyrotechnics and other ammunition were supplied by her. The *Fort Rosalie* was relieved by the *Fort Sandusky*, who has since been carrying on the good work begun by her predecessors in the area.

Operations of the 'Little Ships'

The following assessment of the work which the smaller ships of the Commonwealth have been doing in Korean waters has been received from an observer in the Far East:

"From the British naval point of view, the Korean War has proved a war of blockade, a seaman's war of the traditional pattern.

"During the 18 months of fighting there have been occasional spectacular actions which have claimed public attention. Not generally appreciated, however, is the importance of the daily routine patrols by destroyers and frigates of the Royal Navy, the Royal Canadian Navy, the Royal Australian Navy and the Royal New Zealand Navy.

"Individual ships have come into the operational zone and returned for refitting and recommissioning. The Commonwealth force in the Far East, from which these ships have been drawn, has generally amounted to not less than 24 destroyers and frigates. These have, of course, been additional to the aircraft carrier, aircraft maintenance ship, cruisers, and minesweepers in the Far East.

"The Navy holds responsibilities comparable with the Americans in this theatre, the broad division being that the latter look after the East coast of Korea while the particular British commitment is the whole of the West coast. The task entrusted to these forces can be broadly divided into four main categories: the denial of sea

communications to the enemy, the harassing of troops and supplies in the coastal regions, the support of friendly guerilla organizations, and lastly the escort of our own supplies and aircraft carriers engaged in offensive operations off the coast. Recently an additional role has been added, the defence of islands on and North of the 38th parallel. The enemy would like to occupy these to enhance his bargaining power at Panmunjom.

" The degree of success achieved can be judged from Communist reactions. At no time have they been able, or recently even attempted, to supply their forces by sea and this single factor, in a country with such sparse land communications, has tipped the balance between defeat and victory for the greatly outnumbered land forces. The land communications are under constant bombardment by the carrier force and the strength of the escort has so far deterred the enemy from any serious attempts to interfere with this. The effects of guerilla activity and inshore ship bombardment are more difficult to gauge as the geography of the West coast largely precludes any but indirect assistance to the main land battle. The successful launching and supply of the Inchon invasion is proof of the enormous advantage accruing from our mastery of the sea.

" A brief survey of the waters in question is necessary to the appreciation of the problems involved in these naval operations. The West coast of Korea is studded with small rocky islands and tortuous channels through which swirl fast and irregular tidal streams. For weeks on end the coast is shrouded in fog and during the Winter months the bitterly cold winds blowing from Manchuria and Siberia cause rough weather in the Yellow Sea on five days out of seven. Most of the ports above the 38th parallel are icebound and, even when they are free, they can only be reached by navigating shallow channels easily mined by the enemy and often covered by shore batteries. Charts surveyed long ago are frequently out of date and a tidal range of more than 30 feet, coupled with the silting of the larger river estuaries, results in there being no guarantee that the ocean bed corresponds to the chart representation. The experience of our frigates in the Han Estuary is well known. There, sounding from boats ahead of the ships in tides often running between 7 and 10 knots, they had to grope their way in muddy waters. In all, 29 miles of channel were sounded and for a period of 120 days at least two frigates were continuously using these waters to harass the enemy's possible build-up areas.

" A blockade patrol of ten to 14 days on such a coast can never be entirely dull and often provides excitement. The beat extends right up to the Yalu River. Apart from ordinary patrolling to seek enemy craft, there are numerous opportunities for close inshore bombardment of enemy positions and lines of communications in support of our own forces.

" A typical day's work might start with a destroyer on night patrol steaming to bombard a reported enemy troop position near the coast at first light. The hands are piped to action stations at 0530 hours and the guns prepare for the shoot as the ship creeps through shoal waters in the darkness. As soon as it is light enough for the spotting aircraft to observe the fall of shot, fire is opened and continued until the target has been well covered or destroyed. The forenoon is spent directing minesweeping operations. Then it is time to rendezvous with another ship and collect mail and despatches.

" These transfers of mail, and indeed of anything from men to potatoes, are normally done at sea by jackstay, a line rigged between the two ships who steam

parallel and close alongside each other while the particular commodity is hauled over on the jackstay. Such an operation requires a nice degree of seamanship and, in heavy weather, determination.

" In the afternoon, a shore battery is engaged, with the fire directed by the ship's own spotting team landed in advance by boat. The next task is to visit a friendly island and land stores and equipment for the garrison. At dusk the ship patrols the limits of prohibited night fishing areas and chases the wayward friendly fisherfolk homewards, in order to clear the seaward approaches and ease the detection of Communist craft attempting to slip through the blockade. Nightfall finds her once again on patrol and sweeping the area with her radar.

" Later still there will be contacts—the ' blips ' detected on her radar screen—to be closed and investigated : the guns' crews ' stand-to ' while searchlights or star-shell illuminate the area. The vessel thus disclosed may be identified as a friendly coaster supplying refugees on one of the off-laying islands. If her identity cannot be so easily discovered, the whaler must be lowered to pull over with a boarding party for a thorough examination.

" Although East and West coasts are, broadly, American and British Commonwealth commitments, respectively, the two navies always exchange one or more ships so that our destroyers and frigates also get their ' run ' on the East coast. Here the Communist main supply line and the end of the battle front run along the coast and are easily accessible to ships. Operations are mainly in the Wonsan or Songjin area, and a destroyer's time is spent in keeping up a running bombardment of road and rail communications both by day and night. A ship usually fires over 1,000 rounds from her main armament during a patrol and the consequent strain on her guns' crews and equipment is considerable. The land round Wonsan is enemy held and duels with shore batteries are frequent, as also recently on the West coast where the shore batteries are trying to drive away the forces defending the nearby islands.

" This type of patrol is interesting and indeed stimulating : there are many patrols, too, on which not a shot is fired, but ships steam long distances at high speed to protect an aircraft carrier, escort convoys, or replenish ships. This becomes truly monotonous after a time. It has been no exception for destroyers, doing duty on the carrier screen, to spend three weeks at a stretch at sea in the Yellow Sea. Steaming distances of 8,000 miles a month are not uncommon and upon occasions 10,000 to 11,000 miles have been aggregated.

" So the work goes on and has been going on for 18 months ; unspectacular but important work ; work which has entailed much sea time and much hard steaming under conditions of great heat in the Summer and intense cold in Winter ; work which has called for fortitude and endurance by ships' companies ; work which has earned the Navy's traditional measure of praise, ' Well done '."

DIARY OF THE WAR IN KOREA[1]

16*th October*.—North of Kumhwa, U.S. troops repulsed two Chinese attempts to recapture a hill and subsequently extended their gains. The U.S. destroyer *Perkins* and mine-sweeper *Osprey* were hit by shells from an enemy shore battery on the East coast and suffered some casualties and superficial damage.

It was reported that the enemy high command had sent a letter to the Allies proposing immediate resumption of truce talks, and that Headquarters in Tokio had stated that it offered no new constructive proposals.

17*th October*.—In the East-central sector, South Korean troops were engaged in hand-to-hand fighting with Chinese who attacked after a heavy bombardment. U.S. troops drove off five enemy attacks North of Kumhwa. Fighting continued in the "Whitehorse" hill area.

18*th October*.—Chinese troops withdrew from a recently captured position in the East-central sector. Further West, U.S. troops captured a position overlooking Chinese-held territory. The Eighth Army reported that the enemy had lost 19,000 killed and wounded in the recent fighting.

19*th October*.—Chinese troops launched heavy counter-attacks on a hill North of Kumhwa and on a ridge a short distance to the East, but were thrown back with heavy losses. Allied aircraft flew 1,000 sorties against enemy troop and supply concentrations, railway targets, ammunition dumps, and battle-line positions.

20*th October*.—Chinese continued their attacks North of Kumhwa capturing two hills, one of which was subsequently retaken by U.S. troops. Further West, enemy probing attacks increased against hills overlooking the Chorwon valley and in the area North-West of Yonchon. Off Wonsan, the U.S. escort vessel *Lewis* was hit twice by shore batteries and sustained some casualties.

21*st October*.—In the central sector, an attack by Chinese troops was repulsed by South Koreans. Elsewhere, rain caused a lull in fighting.

22*nd October*.—Fighting continued North-East of Kumhwa where the South Koreans recaptured a hill taken by the Chinese earlier in the day. In the Wonsan area, carrier aircraft silenced shore batteries which had been firing on Allied warships. Allied aircraft and warships attacked targets in the Haeju area.

23*rd October*.—In the West-central sector, South Koreans recaptured a hill crest from the Chinese. Sabre jets shot down one MIG-15 and probably destroyed another. Superfortresses bombed a lead and zinc mine in North Korea.

24*th October*.—West of Yonchon, the British Commonwealth Division repulsed an attack by Chinese troops after an eight-hour fight.

25*th October*.—In the eastern sector, an attack by North Koreans was repulsed. Fighting continued in the central sector, where local attacks by U.S. and enemy troops were unsuccessful. Allied fighter-bombers were active in the West, and two MIGs were shot down near the Yalu river.

26*th October*.—U.N. troops completed the capture of a ridge in the central sector. One prisoner was killed and 74 were wounded on Koje Island during the suppression of a fresh outbreak by North Korean prisoners of war.

27*th October*.—In the central sector, Allied troops beat off light enemy attacks. North-East of Panmunjom, Chinese troops, supported by heavy artillery fire, overran some outpost positions and caused U.S. Marines to withdraw from a hill.

28*th October*.—A successful attack by U.S. Marines completely restored their positions North-East of Panmunjom.

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[1] A sketch-map of Korea faces page 120.

29th October.—South Koreans regained a hill position in the central sector. General Mark Clark, on tour in Korea, congratulated the commander of the South Koreans on the magnificent fighting of his troops during recent actions.

30th October.—No event of importance was reported.

31st October.—In the central sector, the enemy captured a hill. Counter-attacks won back some ground but failed to retake the crest. The 1st Battalion, The Duke of Wellington's Regiment, arrived at Pusan from England.

1st and 2nd November.—Bitter fighting continued North of Kumhwa in the central sector when South Korean troops made unsuccessful attempts to regain the crest of the hill (" Triangle " hill) lost to the Chinese on 31st October. Five MIGs were shot down, two probably destroyed, and five damaged by U.S. Sabre jets. Allied warships and carrier-based aircraft made many attacks on targets on the East and West coasts.

3rd November.—Three attacks by South Koreans on " Triangle " hill were repulsed by Chinese within 50 yards of the summit.

4th November.—In the eastern sector, several local attacks by the enemy were repulsed by South Korean troops.

5th November.—Unsuccessful attacks by the Chinese on a ridge in the eastern sector and by the South Koreans on " Triangle " hill resulted in both actions being broken off.

6th, 7th, and 8th November.—No event of importance was reported.

9th November.—The 1st Battalion, The Welch Regiment, left Pusan for Hong Kong after 12 months service in Korea.

10th November.—In the East coast sector, Allied troops recaptured two hills which had been taken by North Koreans earlier in the day.

11th November.—Enemy attacks in the eastern sector and in the Chorwon area were repulsed. In the central sector, the enemy regained a hill after fierce fighting.

General Van Fleet disclosed that two new South Korean divisions had been formed and that this brought the Republic of Korea's Army, including its non-divisional forces, up to the equivalent of between 14 and 15 divisions.

12th November.—South Korean troops, strongly supported by artillery, won back all the positions in the central sector which they lost as a result of enemy attacks during the night.

13th November.—Chinese troops recaptured a hill, known as " Pinpoint" hill, in the central sector which the South Koreans took on 12th November.

14th November.—An endeavour by South Koreans to recapture " Pinpoint " Hill was unsuccessful, as fog deprived them of adequate air and artillery support.

15th and 16th November.—Fighting for hill positions continued in the central sector, South Korean troops regaining " Pinpoint " hill.

It was reported that 245 prisoners of war had died in U.N. detention camps between 1st August and 12th November. Of these 170 died from natural causes, 10 committed suicide, and 65 suffered violent deaths, 56 of them in the Cheju riot on 1st October.

17th November.—Fighting was confined to small enemy raids on outposts and artillery bombardments in the central sector, where snow covered forward positions. Fighter-bombers piloted by U.S. Marines attacked a hydro-electric plant on the East coast. Two MIGs were shot down at sea by naval Panther jets, and a third was damaged. Five MIG-15s were shot down by Sabre jets over North-West Korea.

18th November.—South Koreans repulsed two small attacks by Chinese in the central sector. Superfortresses bombed an enemy mining centre near the Yalu. U.S. Sabre jets brought down one MIG and damaged another.

19th November.—In the western sector, attacks by Chinese troops on a key ridge were repulsed by The Black Watch supported by the 3rd Battalion, Princess Patricia's Light Infantry, after prolonged hand-to-hand fighting.

20th November.—No event of importance was reported.

21st November.—Chinese troops attacked "Pinpoint" hill in the central sector without success, and two diversionary attacks to the East and West were also driven off. Superfortresses bombed a bridge above the 40th parallel and a supply area near Wonsan. The 5th Air Force reported that Sabre jets shot down 14 MIG-15s during the week, probably destroyed another, and damaged four more for the loss of only one of their aircraft.

22nd and 23rd November.—Apart from probing attacks by the Chinese, chiefly in the central sector, there was little ground activity. Superfortresses bombed a military area in the Pyongyang area and a supply centre at Haeju.

24th November.—Allied troops repelled enemy probing attacks which continued along the front in temperatures below freezing point. General Mark Clark arrived in Korea on an inspection visit.

25th November.—Allied infantry recaptured two positions in the central sector which they had lost during the night. In the western sector, companies of the 1st Battalion, The Royal Fusiliers (City of London Regiment), and the 1st Battalion, Royal Australian Regiment, made an eight-hour raid on the Chinese lines. Superfortresses bombed an enemy troop and supply area near Pyongyang, and B-26 light bombers destroyed a number of supply vehicles on roads leading to the front. General Mark Clark left Korea after visiting troops of the British Commonwealth Division.

26th November.—A local attack by Chinese troops in the Chorwon area was repulsed. U.S.A.F. and Marine fighter-bombers attacked an enemy troop and supply centre South-West of Wonsan, and it was reported that a very large number of enemy vehicles had been destroyed on roads by Allied aircraft during the past several days.

27th and 28th November.—No event of importance was reported.

29th and 30th November.—Allied artillery and fighter-bombers bombarded enemy troop and gun positions in the central sector, and enemy guns and mortars were equally active. Several small enemy attacks were driven off. Allied aircraft continued their attacks against railways and roads and destroyed a number of vehicles and a locomotive.

1st December.—South Korean troops successfully raided an enemy position in the central sector. Otherwise, rain and low cloud restricted land and air operations. Two U.S. warships shelled forward enemy positions South of Kosong on the East coast. At Panmunjom, enemy liaison officers stated that Allied aircraft last week bombed a camp in North Korea which contained U.N. prisoners of war. Inadequate marking of such camps, it was stated, had frequently been a cause of protest by the U.N. Command.

2nd December.—No event of importance was reported.

3rd December.—In the central sector, South Korean troops recaptured "Pinpoint" hill which was taken by the Chinese earlier in the day. Two MIG-15s were shot down by Sabre jets over North-central Korea.

4th December.—South Koreans repulsed three local attacks in the central sector.

5th December.—Superfortresses and B-26 bombers attacked targets near Wonsan and a supply centre South of the Yalu river.

6th and 7th December.—It was reported that General Eisenhower, U.S. President-elect, had left South Korea after a three-day visit. Seven MIG-15s were shot down by U.S. Sabre jets.

The 1st Battalion, Royal Tank Regiment, from the United Kingdom arrived at Pusan.

8th December.—No event of importance was reported.

9th December.—Superfortresses and B-26 bombers attacked a variety of targets in North Korea. One MIG-15 was brought down by a British pilot.

10th December.—U.S. naval aircraft attacked and severely damaged railway marshalling yards in the North-East corner of North Korea. Other North Korean border areas, including Hyesanjin and Suiho, were also attacked. Aircraft from the British carrier *Glory* attacked troop concentrations and transport on the West coast, and British, Canadian, and Australian ships shelled gun positions and caves.

11th December.—In the western sector, Chinese troops in some strength, after heavy artillery and mortar preparation, captured two hills North-West of Yonchon from the South Koreans. U.N. aircraft continued to attack enemy installations and troop concentrations.

12th December.—South Korean troops retook the two hills in the western sector which were captured by the Chinese on 11th December, but lost them again a few hours later after hand-to-hand fighting. Four other attacks were reported to have been made by the enemy in the western sector. General Van Fleet stated that a new South Korean division was about to take its place in the line and that another would be ready very soon.

13th and 14th December.—In the western sector, the South Korean 1st Division recaptured one of the hills lost on 12th December and held it against strong counter-attacks. Superfortresses bombed an enemy area near Sinuiju in North Korea which contained an anti-aircraft school, a textile mill, a vehicle repair plant, and supply building.

15th December.—The Eighth Army reported that 82 Korean civilian internees were killed and 120 injured when 3,600 rioting internees on Pongam Island (West of Koje Island) refused to obey orders, threw stones at the guards, and threatened a mass break-out.

16th December.—At Panmunjom, a letter from General Nam Il protesting against the prison camp incident reported on 15th December was handed to the U.N. representative.

17th December.—In the central sector, four small enemy attacks were repulsed. U.S. Sabre jets shot down one and damaged four other MIG-15s. Superfortresses bombed targets in the Haeju area.

18th December.—Allied fighter-bombers made a succession of attacks on a big concentration area for enemy troops 20 miles South of Pyongyang, destroying a number of buildings and causing the explosion of an ammunition dump. North Korea rejected the U.N. resolution based on proposals by India for ending the deadlock in the Korean truce negotiations.

19th December.—U.N. fighter-bombers attacked an enemy troop centre 25 miles North of Kaesong, and U.S. Sabre jets shot down one MIG-15.

20th and 21st December.—Apart from slight outpost activity West of Chorwon, ground activity was restricted because of snow and severe cold. British aircraft from the carrier *Glory* attacked enemy positions along the West coast destroying a railway bridge, a transformer, a locomotive, and several buildings and vehicles, and damaging a factory, a water tank, other buildings, and vehicles.

22nd December.—U.S. Sabre jets destroyed three MIG-15s.

The 20th Field Regiment, R.A., arrived at Pusan from Hong Kong.

23rd December.—Ground activity was limited to probing attacks and raids. Allied fighter-bombers attacked a railway junction on the Haeju peninsula and an air base at Pyongyang. One MIG-15 was shot down.

24th December.—No event of importance was reported.

25th and 26th December.—There was no lull in air activity. A large number of MIG-15s were seen on 25th, flying further South than usual; and, on 26th, Allied aircraft damaged enemy supply dumps, artillery positions, and buildings, and cut a railway line in several places.

27th December.—No event of importance was reported.

28th December.—Two hundred Allied aircraft bombed billets, barracks, supply buildings, and ammunition stores at a big enemy centre near Pyongyang. U.S. Sabre jet pilots escorting the bombers reported the destruction of two MIG-15s, the probable destruction of another, and damage of a fourth. One Sabre jet was lost but the pilot was saved.

29th December.—The 14th Field Regiment, Royal Artillery, sailed from Pusan for Hong Kong after 13 months' service in Korea.

30th and 31st December, and 1st January.—No event of importance was reported.

2nd January.—U.N. troops raided enemy positions in the central sector and reported the killing of a number of Chinese. During the night of 1st/2nd January, Superfortresses bombed an enemy barracks, an ore-processing plant 25 miles North-East of Pyongyang, and a railway marshalling yard four miles North of the capital, and B-26 bombers attacked enemy communications on the East coast.

The following U.S. aircraft losses during the war were reported :—U.S. Air Force (up to 31st December) : 683 aircraft—95 in aerial combat, 485 due to enemy ground fire, and 103 to other causes. U.S. Navy and Marine (up to 1st December) : 1,016 aircraft—464 in action and 552 due to other operational causes.

3rd and 4th January.—No event of importance was reported.

5th January.—One MIG was brought down by U.S. Sabre jets.

6th January.—One hundred Allied fighter-bombers attacked an enemy supply depot 30 miles South of the Yalu, and Superfortresses bombed a similar depot near Pyongyang. It was reported that South Korean troops were manning more of the battle line than heretofore.

7th January.—In the eastern sector South Korean troops blew up an enemy tunnel into a hill, killing a number of North Koreans. U.S. Sabre jets brought down one MIG-15 and damaged two others over North-West Korea. Aircraft from the British carrier *Glory* attacked coastal gun positions opposite the islands of Chodo and Sokto in the Yellow Sea. The British cruiser *Birmingham* and the U.S. battleship *Missouri* shelled enemy West coast defences.

8th January.—Allied troops made a raid in strength on the Chinese lines East of Panmunjom, supported by heavy tank, artillery, and mortar fire.

9th January.—Superfortresses bombed anti-aircraft positions in North-West Korea on the main supply route from Manchuria during the night.

10th January.—Three hundred Allied fighter-bombers attacked nine road and railway bridges in North-West Korea on the main supply route from Manchuria. Later, after dark, Superfortresses bombed railway centres and anti-aircraft positions in North Korea.

11th January.—No event of importance was reported.

12th January.—The enemy made a number of raids on Allied outposts, the strongest being in the eastern sector where an attack by some 800 enemy troops was driven off by a new South Korean division.

13th January.—Allied fighter-bombers in two waves of over 200 aircraft each attacked five bridges, railways, and supply depots North of Sinanju in North-West Korea. Two fresh Chinese armies, numbering 35,000–40,000 each, were reported to be moving into position in the western sector.

14th January.—Superfortresses bombed a railway marshalling yard at Sinanju and another yard and coal stocks 15 miles to the North-East. U.S. Sabre jets shot down eight MIG-15s, probably destroyed a ninth, and damaged three, possibly six, others.

15th January.—The U.N. Command in Korea notified the enemy that, after 25th January, enemy convoys to and from neutral Kaesong in the armistice area would be subject to attack every day but Sunday until there is a resumption of peace talks. Abuse by the enemy of the privilege of sending convoys daily after promise of immunity of attack was stated to be the cause of this action.

CHINA
MANCHURIA
CHONGJIN
HYESANJIN
MANPOJIN
CHOSAN
KANGGYE
CHANGJIN
RESERVOIR
FUSEN DAM
SONGJIN
YONGHUNG
TANGCHON
YALU R.
CHOSHIN DAM
HAGARU
HAKALWOO
IWON
SUIHO DAM
SAKCHU
KOTORI
SINUIJU
UNSAN
HUICHON
Chongchon R.
NAMHUNG
SINPO
TAECHON
TOKCHON
TAEDONG R.
HUNGNAM
PAKCHON
KUNU
ANJU
SEA
OF
JAPAN
YALU GULF
CHONGJU
SINANJU
YONGHUNG
NAPU SOMU ISLAND
JUNAN
WONSAN
PYONGYANG
TONGCHON
CHINNAMPO
SUAN
KOKSAN
CHANGJOH
SOKTO
AMGAK
KOSONG
SARIWON
PYONGGANG
KUMSONG
KANSONG
CHODA ISLAND
YESONG R.
IMJIN R.
KUMHWA
CHORWON
CHOPPEKI POINT
CHANGYON
HWANGHAI
NANCHONJON
HWACHON
INJE
SONGHYON
KAESONG
YANGYANG
38°N
KAPYONG
CHUNCHON
KORANGPO
HANGYE
KANGNUNG
KIMPO
SEOUL
HONGCHON
CHONGSON
SAMCHOK
YONGDU
HOENGSONG
PYONGCHANG
JNCHON
YONGBUNGPO
ANYANG
CHIPYONG
WONJU
SUWON
ICHON
YOJU
TOKCHOK ISLAND
CHECHON
YONGWOL
KUMYANGJANG
OSAN
PYONGTEEK
HAN R.
ANSONG
CHUNGJU
TANYANG
CHONAN
YECHON
YONGJU
CLIFFORD ISLAND
CHONUI
CHOCHIWON
CHONGJU
ANDONG
HAMCHANG
YONGDOK
KONGJU
POUN
SANGJU
UISONG
YONGDONG
CHANGSA
TAEJON
SONSAN
KUM R.
UINUNG
KIAVE
HUNGHAE
NONSAN
KANGGYONG
KUMCHON
YONGCHON
POHANG
YELLOW
SEA
KUNSAN
WAEGWAN
SONGJU
ANGANG
TAEGU
KYONGJU
CHONJU
KYONPUNG
IMSIL
HYOPCHON
CHANGNYONG
NAMWON
TANYANG
HAM R.
CHINJU
MASAN
PUSAN
KWANGJU
HADONG
HAMAN
KOJE ISLANDS
SUNGHON
MOKPO
TOSU
SCALE OF MILES
20 10 0 20 40 60

THE INTERNATIONAL SITUATION[1]

By A. K. Chesterton, M.C.

THE FAR EAST

Far Eastern G.H.Q. Proposal

THE proposal, attributed to President Eisenhower, that there should be established a United Nations G.H.Q. to assume responsibility for the conduct of the campaigns in Korea, Indo-China, and Malaya has created curiously little controversy. Those who favour it do so without much fervour, while its critics, with few exceptions, have shown as little vehemence in their displeasure. At first glance—and possibly at last glance—the opponents might seem to have weightier arguments at their disposal than do the proponents. Their strongest point is that the Chinese Communists, while they operate the principal supply line for Viet-Minh, and provide training on Chinese soil for Viet-Minh cadres, have not committed their own troops to battle in Indo-China. Were they to do so, the position of the French would scarcely be improved.

Advocates of unified command, however, make much use of the long-continued drain on French resources. They say that unless the Western Powers as a whole accept responsibility for the campaign in Indo-China, the participation of France in the defence of Western Europe cannot be whole-hearted. To this argument the opponents of the scheme reply that a unified Far Eastern Command would bring to the aid of France many staff officers, but not a single fighting soldier. If China were to follow the proposed Western example, and openly acknowledge that the three campaigns are in fact one campaign, whence, they ask, would come the extra United Nations troops to cope with the entry into Indo-China of a large Chinese army.

Korea

The Allied position in Korea is certainly not so secure as to permit the transfer of a single division from that theatre to reinforce French troops in Indo-China, or British troops in Malaya. It would be dangerous to destroy the balance which has been achieved with so much effort and sacrifice. Unsatisfactory as the present *impasse* undoubtedly is, there are worse things than a stale-mate. The sporadic fighting of recent months, sometimes flaring into fierce battles, has, on the Western side, served no obvious strategic purpose, but for the Chinese it may well have been used to test Western strength, in the hope of a break-through in force.

The stale-mate, of course, cannot be allowed indefinitely to continue. President Eisenhower must have had the fact in the forefront of his mind when he flew to Korea to make a first-hand appraisal of the situation. On his return, he had a long talk with General MacArthur, and no doubt found himself in full agreement with the famous MacArthur dictum that there is no substitute for victory. Unless there are undisclosed factors, however, it is difficult to see how a Far Eastern G.H.Q. could help to achieve victory in Korea. Its establishment in present circumstances might rather provoke an all-out war between China and the West, which of all possible happenings would be the one most to rejoice the Soviet heart.

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[1]As deduced from reports up to 20th January.

Indo-China

The South-easterly thrust of Viet-Minh forces through the Thai country of Tongking has been halted, at least for the time being, but it was sufficiently successful to give the French an unpleasant jar. A large area was wrested from them, facilitating rebel communications with China, and at the same time enabling Viet-Minh to woo the Thai inhabitants, hitherto for the most part staunchly pro-French. The wooing takes the classic form of Chinese Communist seduction—'agricultural reform,' including land re-distribution, which at first wins the enthusiastic approval of the peasants, and only after a time-lag results in their being taxed almost out of existence. This time-lag may be useful to the rebels, enabling them to make the most of the good-will, while it lasts, by recruiting many thousands of Thais into their army.

It is difficult to estimate the quality of the local forces raised by the Indo-Chinese authorities in support of the French. They consist of the Army of Viet-Nam (162,000 men) and auxiliaries not mobilized in a permanent way, numbering about 60,000. The Viet-Nam Government is reported to be anxious that their troops should undertake general responsibility for the campaign, releasing the bulk of the French forces for services elsewhere. Paris probably regards this proposal with some scepticism. Metropolitan France maintains in Indo-China an expeditionary force of 69,286, of whom over 6,000 are officers and over 23,000 are non-commissioned officers. The French Union provides a further 47,000 men and the Indo-China Regular Army another 48,000. These supply the stiffening, and could be diminished only with the gravest misgivings. What is needed is not less, but more, effective fighting strength. One might think that the provision of United Nations fighter and bomber squadrons would be worth much more to the French than a United Nations G.H.Q.

Malaya

There is no case whatever, in present circumstances, to bring Malaya under a comprehensive Far Eastern Command. If the Chinese decided openly to join forces with Viet-Minh, it is conceivable—although not very likely—that they would employ the Japanese strategy of occupying Siam, which would profoundly alter the situation, not only in Malaya, but throughout the Far East. A United Nations G.H.Q. would then be a necessity. But the Chinese are a cautious people who would not relish extending their lines of communication without the sea-power to protect them. Only should a general war develop might they take this risk, combining with it a thrust on Rangoon by way of the Burma Road, which is reported to be kept in a state of repair, no doubt in anticipation of that contingency.

The rather disquieting skirmishes which have been taking place on the Malayan-Siamese frontier, where Communists from both countries have concerted operations, probably represent the limit of Chinese ambitions in the foreseeable future. If the Communists can organize a larger and more active fifth column in Siam, they may be able to establish some kind of irregular supply route from China, passing through North-West Indo-China, which Viet-Minh has now over-run, and so ending the isolation of the Malayan terrorists. That would not be fatal for the British, but it would add considerably to their difficulties. Fortunately, Siam possesses a stable Government, which is an insurance against any considerable link-up between the Communist forces in this region.

THE MIDDLE EAST

An oblique, if not very bright, shaft of light has been thrown on Western aims in the Middle East by the sudden agitation in India caused by a belief that Pakistan

has consented to participate in arrangements for its defence. What these arrangements are has not yet been disclosed. As General Neguib repeatedly affirms his opposition to foreign—not only to British—troops in the Canal Zone, it is inconceivable that Karachi would contemplate sending a contingent to bases in Egypt, or that there should be an intention to send there any other elements of an international force. As there appears to be nowhere else to station them at the present time, one can only suppose that Pakistan has done no more than commit herself to despatch troops in the event of certain contingencies. Even a paper commitment by Pakistan is apparently enough to arouse Indian wrath. Delhi never tires of proclaiming her policy of 'neutralism' in the present world alignment, and Mr. Nehru has made quite clear that in his view Pakistan's association with the military arrangements of the West would endanger that policy by bringing the Indian sub-continent within the possible scope of operations in the event of war. It must be borne in mind, however, that Pakistan, no less than India, is a sovereign country.

Egypt

There is no doubt that General Neguib's liquidation of party warfare for a professed period of three years—it could be indefinitely continued—has greatly strengthened his hand. He is the master of Egypt as no Egyptian has been within living memory. Although his *coup* was made with the declared object of cleansing the country of corruption, his statement to the students of Cairo University that the chief aim of the Army Movement was to secure the withdrawal of foreign troops from the Canal Zone—and, by inference, from the entire Nile Valley—came much nearer to the probable truth.

At the time of writing, events are moving to a climax, but British intentions remain obscure. Cairo has reached an almost magical agreement about the immediate future with political parties in the Sudan, including the hitherto anti-Egyptian Umma Party and, even more surprisingly, with the representatives of the South. The dream of the Nile Valley's being irrigated with dollars in spate is the probable explanation. Great Britain has accepted this agreement with apparent equanimity, and is still negotiating with the Egyptian Government in a friendly atmosphere, despite the fact that the questions of the Sudan and the evacuation from the Canal Zone are regarded by General Neguib as one. The key to the mystery may be furnished by the time these notes appear in print.

Persia

There has been, during the last quarter, an intensification of American diplomatic activity over the Persian oil dispute, rather as though the Truman Administration has been most anxious to push its policy to a conclusion before surrendering office. London is said to have agreed to the State Department's proposal for a settlement, the main points of which, according to the British United Press, call for:—(1) Creation of a group of international oil companies to buy and market a major part of Persian oil production. (2) Banking of a proportion of Persia's oil income in a fund to settle British compensation claims. (3) International arbitration on British and Persian counter-claims. (4) Outlay by the United States of more than $100 million (£35 million) in direct aid to Persia and in future oil purchases.

Should this be the substance of the agreement, it will be seen that London has felt compelled to forgo almost its entire case. The moral requires no stressing.

It is that, without world power, we can hope only for a very attenuated kind of survival. The task will not be easy, and may call for a fresh orientation of thought, but that power must obviously be retained.

EUROPEAN DEFENCE COMMUNITY

The project for a European Defence Community is meeting, if not with heavy weather, at least with unfavourable winds. There has been in the West German *Bundestag*, for instance, a marked reluctance to come to grips with the problem, so that the treaty establishing it still awaits ratification. The Social Democratic Party advances as a plea for delay the desirability of not prejudicing the chance of Four-Power negotiations for the unification of Germany, but it is difficult to believe that this is more than a pretext. Western Germans would indeed be gullible if they thought that there could be, in the foreseeable future, an accord between East and West on the German destiny. The real reason for the hesitation is probably the knowledge that the placing of German troops under an international authority, in the limiting circumstances proposed, is a project thoroughly disliked by the German people, including many followers of Dr. Adenauer. The West German Chancellor has told the *Bundestag* of Mr. Acheson's warning that a refusal to ratify the treaty could result in the United States saying she was no longer interested, but his hearers evidently did not consider this a probable contingency.

Nor is it Western Germany alone who is dillying and dallying. One of the significant features of the recent change of Government in France was the dropping of M. Schuman. Although the European Defence Community came into the world as the Pleven Plan, its chief advocacy, as that of the Iron and Steel Community, has been the work of M. Schuman. That he should have been replaced by M. Bidault is a clear indication that the measure as it stands is no more popular in Paris than it is in Bonn. The Gaullists have insisted that it shall be amended in such a way as to leave intact the unity of the French forces, and the new Administration has agreed, not so much to appease the Gaullists, as because of the certainty that their call finds an echo in every true French heart. Whether the modification will consist of more than a formula that French troops detached for the European Army will be only seconded for such service is not at present known. The indications are that both countries will eventually sign the treaty, but that to make it work will tax Franco-German ingenuity to the uttermost.

Britain's Position

Britain's attitude towards the Defence Community has caused some acrimonious discussions at the General Assembly of the Council of Europe. It is the French view, perhaps a not very realistic one, that the main obstacles to the formation of the Defence Community would be overcome were Britain to agree to participate in the proposed European Army. M. Paul Reynaud suggested, not for the first time, that this Country is not taking European defence with sufficient seriousness. The British delegation, with Mr. Alfred Robens in the van, was quick to protest, pointing out that not only is Britain ahead of all other countries in her rearmament programme, but that she has guaranteed the Defence Community, while the French and Germans have yet to ratify it. There is no doubt that Britain will resist the pressure to integrate her forces as a part of the proposed European Army, although her guarantee to co-operate with it will stand.

CORRESPONDENCE

(Correspondence is invited on subjects which have been dealt with in the JOURNAL *or which are of general interest to the Services. Correspondents are requested to put their views as concisely as possible, but publication of letters will be dependent on the space available in each number of the* JOURNAL.—EDITOR.)

To the Editor of the R.U.S.I. JOURNAL.

SIR,—I have asked Major J. G. Lockhart to write a full account of the various enterprises with which I have been connected in the course of my life, such as the formation of the Royal Air Force, the re-organization of Scotland Yard, the opening up of Nigeria, and my service in the Army.

Major Lockhart would be greatly assisted if anyone in the possession of interesting and relevant documents would be kind enough to send them to Mrs. Hilary St. George Saunders, 4 Crescent Mansions, 113 Fulham Road, London, S.W.3.

All the papers sent will be returned.

TRENCHARD,
Marshal of the Royal Air Force.

19th November, 1952.

GENERALS AND ADMIRALS

SIR,—What a pleasure it was to read your review of Captain Creswell's *Generals and Admirals*[1]. The reviewer had evidently taken up the book and said, "What is the purpose of this book? For whose edification has it been written?" Too often reviewers do not ask that question and criticize an author for leaving out information and documentation which might make the book more acceptable to the microscopic number of serious historians, but would cause it to be shunned by the reading public. We cannot have too many books about the Services, defence, etc., which are short, easy and pleasant to read, and not too expensive, because very few people have, today, the time and inclination to read large tomes about campaigns, systems of command, and all that.

Autobiographies, letters, and diaries of prominent leaders are still in high demand despite their price, but books with no personal interest, books giving factual accounts only of Service affairs, are seldom seen outside reference libraries.

Some years ago I reviewed for a paper a book of light-hearted and very amusing memoirs obviously written to entertain, and very good entertainment it was. Later, I read a review in a paper that is popular with that ever-increasing number of middle-class intellectuals; the reviewer ignored the purpose of the book, made no mention of its entertainment value, and expressed surprise that the author had not given his views on higher policy, strategy, influence of sea power, etc.!

W. M. JAMES,
Admiral.

30th November, 1952.

THE NEED FOR A R.A.F ANTI-SHIPPING FORCE

SIR,—Having read Wing Commander Foxley-Norris's article *The Need for a R.A.F. Anti-Shipping Force* (JOURNAL, November, 1952)[2], I am convinced of the soundness of his reasoning, save in one factor, the need for it to be a "R.A.F." Anti-Shipping Force.

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[1] See JOURNAL for November, 1952, p. 633.

[2] page 493.

The trained nucleus for such a force does exist in the strike squadrons of the Fleet (Naval) Air Arm and it is from this nucleus, in my opinion, that such a force should be expanded in war-time.

The air effort of both Services would be vastly enhanced and efficiently concentrated if there was less duplication of effort, and if the politicians permitted the Fleet Air Arm to expand in the same logical manner as the U.S.N.A.F.

To my mind, it is common sense that the Royal Navy should assume responsibility for all maritime aerial operations, while the Royal Air Force concerned itself with the defence of British and Allied Territory, the tactical support of British and Allied ground forces, and the strategic bombing of enemy held territory.

Were some such sensible division of labour approved politically, both Services would be able to concentrate in their particular spheres, and Coastal Command could shed its role of a threadbare Cinderella and assume the mantle of a vital and integral part of the Fleet Air Arm.

To digress, Wing Commander Foxley-Norris tended to dismiss aerial mine-laying as costly, inaccurate, and requiring large and vulnerable aircraft, for use mainly by night. To my own knowledge, extremely accurate day-time mine-laying was carried out most inexpensively in the Norwegian Leads by Avenger aircraft operating from escort carriers in the 1944 era. In a long series of operations from Bergen to Trondheim, scores of mines were laid with a high degree of accuracy for the loss of one aircraft.

VIVIAN MALLESON,
Lieut.-Commander, R.N.

11th December, 1952.

THE APPLICATION OF AIR POWER TO WAR

SIR,—In the November, 1952, JOURNAL[3], Group Captain N. C. Hyde, R.A.F., presents the case for strategic bombing in reply to my article of May, 1952[4]. It is indeed important that this subject should be thrashed out fully and that all schools of thought should have their say.

His article puts forward the traditional Anglo-Saxon theory of warfare. It is a theory rooted in the days when command of the Channel was an impenetrable shield behind which we could aim and thrust home our strategic blows without fear of retaliation. This theory is no longer appropriate, but the consequences are not yet widely realized. One major consequence is that unrestricted war in the future will bring us empty victory. This view is underlined by the modern developments in mass destruction, to which we of all countries are vulnerable. For these reasons we must amend our definition of the aim of war (" to impose the national policy on others ") and add the qualification " with the minimum force necessary." Wars, as Group Captain Hyde says, are fought for political ends. Political factors enter into and often decide major strategic decisions. It is all too possible for the military means to destroy the political ends.

Group Captain Hyde has a military aim for war separate from the political aim—" to bring the enemy to the state when he is unable or unwilling to continue to resist." Certainly a tidy aim—simple, concise, and unqualified. The Services are free from the shackles of the tiresome politicians ; free to " make a wilderness and call it peace," and in ending one war to sow the seeds of the next. No, it is right that the Governemnt should conduct our wars and that we, the Services, should leave to the Government a peace that can be won and is worth winning. That means applying the principle of minimum force.

From this, in my article, followed a discussion on strategic bombing. I concluded that strategic bombing was a bad weapon politically and a wasteful one militarily. Group

[3] page 550.

[4] page 249.

Captain Hyde does not attempt to deal with the political effects, though these are of great importance. He does produce facts and figures to show the effectiveness of the strategic bombing of Germany from 1943–45. These I do not dispute, and indeed my original article contained similar facts. No one would deny that our strategic bombing weakened Germany. My case is that it was a wildly extravagant method, and it did not achieve what it set out to do. The aim, as defined at Casablanca on 4th February, 1943, was :— "The progressive destruction and dislocation of the German military, industrial, and economic system, and the undermining of the morale of the German people to a point where their capacity for armed resistance is fatally weakened." In carrying out this policy we lost 72,000 killed and spent £19 thousand million. We certainly achieved destruction on a scale greater than Attila the Hun ever dreamed of. Yet Germany continued to resist the mobilized strength of the three mightiest Powers in the world for two years and three months more. Surely the strength could have been better applied. On these grounds I repeat my conclusion that the strategic bombing campaign was the costliest failure in the history of British arms.

Group Captain Hyde then turns to the future. He disputes my conclusion that the offensive task for our air forces should be "Support for the Army, including the gaining of superiority over the enemy air forces in the field, offensive support, and transport support." He instances the war with Japan as an example of a war being won without a decisive land battle. This is, of course, true. An island Power *which is not self sufficient* has lost when it loses command of the seas around its homeland. The United Kingdom is in exactly the same case. There are other special cases where air power alone can be decisive, e.g. an attack by a major Power on a small industrialized Power (Germany on Holland in 1940). But these examples are purely academic at the present time, when we are considering the strategy of a war against a great land Power. Here, the tactical battle on land would be decisive, as Waterloo was in its time.

Group Captain Hyde is not hopeful of the outcome of a land battle. He sees us struggling to hold the enemy masses. While this is going on he wishes us to bomb the enemy homeland—"his war industries, his communications, his whole base." This he hopes, presumably, will be decisive on the analogy which he gives earlier of immobilizing a motor car by removing a vital part. This is a striking analogy and is worth examing. The idea is that by a short, simple, and painless operation the enemy's war machine is brought to a halt. Surely a most misleading idea. The operation in the last war was long, complex, immensely costly, and agonizing in its effects. Far from causing a complete halt, all it did was to put the brake on slowly. In a future war, while Group Captain Hyde is busy trying to destroy the spare rotor arms, the motor car will have reached the Channel. And then it will be too late. The way to stop the car is to puncture the tyres and then prevent the driver from refilling its petrol tank. This is far easier, cheaper, and the effect is more immediate. The car is first stopped, then pounded, and then destroyed. In this way we shall have achieved not chaos but a victory worth winning.

S. VINES,
Major, R.A.

6th January, 1953.

MORE BATTLEFIELDS OF ENGLAND

SIR,—May I be permitted to quarrel with your review notice of Lieut.-Colonel A. H. Burne's most excellent work ?[5] Those of us who have had to flounder through accounts of old time battles written by civilians will welcome his grand phrase "Inherent Military Probability."

How much nonsense will this eradicate ? Quite recently, for instance, I find the translators of *Chronicum Scotorum* taking our own Aryan ancestors on a fantastic trip

[5] See JOURNAL for November, 1952, p. 637.

to Ceylon, all because they confuse Taprobane with Atrobatene, the classical name for Azerbaijan.

On the other hand, I would reproach Colonel Burne himself with ascribing a too important share in the battle of Brunanburh to the Caledonian Scoti, and that on the word of Stenton, a civilian. Besides "Inherent Military Probability" the military (and naval) historian should practise the restraints due to "Inherent Technological Probability." I feel sure that Anlaf Cuaran's Danish and Norse contingents at Brunanburh were well drilled and really cohesive bodies, armed with "well rivetted byrnies" and in good scale armour. Conversely, King Constantine's men must surely have been armed on Bronze Age standards and no better drilled or disciplined than their descendants at Prestonpans.

Regarding Brunanburh, I feel that if your reviewer had waded through all the earlier civilian accounts of that great battle, he would have been quick to award a laurel to Colonel Burne for his solution of this centuries old riddle.

The Fishguard battle honour is interesting, but one doubts if any fighting took place. In the next year, however, two squadrons of Scots Greys with seven battalions of Irish militia routed a large force of the revolutionary armies of France, who had up to then defeated Russians, Prussians, Austrians, and Whitehall. The 3rd Battalion, The Royal Irish Fusiliers, without firing a shot, charged with the bayonet and captured the Regimental Tricolor of the 70th Demi-Brigade, which now hangs in Armagh Cathedral over the bones of the great Brian "Imperator Scottorum."

L. V. S. BLACKER,
Lieut.-Colonel.

12*th January*, 1953.

THE ORIGIN OF MARCH DISCIPLINE

SIR,—When in May, 1911, Major-General (later Lieut-General Sir Thomas) Snow came from command of the 11th Infantry Brigade to be G.O.C. of the 4th Division (of which I was G.S.O.I.) he brought with him the *Instructions for March Discipline*. I had not previously heard of it. He told me that the originator of the instructions was Lieut.-Colonel H. O'Donnell, commanding the 2nd Battalion, The West Yorkshire Regiment (1908–1912), then in the 11th Infantry Brigade.

March discipline was very soon introduced by all divisions. The history of The West Yorkshire Regiment does not yet cover the period in question, and enquiry of "Records" brought no information about the matter.

Can anyone throw further light upon the introduction of march discipline?

J. E. EDMONDS,
Brigadier-General.

21*st January*, 1953.

GENERAL SERVICE NOTES

NORTH ATLANTIC TREATY ORGANIZATION

MEDITERRANEAN COMMAND.—It was announced on 16th December by the North Atlantic Council in Paris and by Mr. Churchill in the House of Commons that Admiral the Earl Mountbatten of Burma is to be the first Commander-in-Chief, Mediterranean, under the North Atlantic Treaty Organization.

The North Atlantic Council has approved a system of command for the Mediterranean Sea as formulated by the Military Committee, the principal change being the establishment of a C.-in-C., Mediterranean. By agreement the C.-in-C., Mediterranean, will be initially a British naval officer. The C.-in-C., Mediterranean, will be directly subordinate and responsible to the Supreme Allied Commander, Europe, and his staff will include officers from all nations concerned.

The duties of the C.-in-C., Mediterranean, will include the co-ordination of the movements of all naval forces in the Mediterranean. Admiral Lord Mountbatten will continue to be responsible to the British Chiefs of Staff for the security of our communications with the Middle East.

The heavy carriers, amphibious and support forces of the United States 6th Fleet will remain under the command of the C.-in-C., Allied Forces, Southern Europe. Sometimes referred to as a striking force, the 6th Fleet is primarily a force organized for the support of land campaigns in southern Europe.

The Mediterranean will be sub-divided into a number of areas for the exercise of functions of local or national nature. The several area commanders will be responsible to the C.-in-C., Mediterranean, for all Allied tasks, but will remain under their own national authorities for various tasks which are national in character. These areas will include the important French and Italian areas in the western and central Mediterranean. National coastal areas will be a national responsibility.

COMMANDER-IN-CHIEF, ALLIED FORCES, NORTHERN EUROPE.—It was announced from Oslo on 18th December that Admiral Sir Patrick Brind would retire from the post of C.-in-C., Allied Forces, Northern Europe, on 1st April and that he would be succeeded by Lieut.-General Sir Robert Mansergh, his deputy.

EXERCISE "LONG STEP."—This six-nation, ten-day naval, land, and air exercise took place between Gibraltar and the Turkish coast during the first half of November. Forces from Britain, France, Greece, Italy, Turkey, and the United States took part, and the exercise reached its culminating point when an international landing force of 6,000 officers and men, after climbing down landing nets from United States transports into landing craft, stormed the beaches of Lebedos Bay on the West coast of Turkey, South of Smyrna. The exercise was directed by Admiral Carney, C.-in-C., Allied Forces, Southern Europe.

GREAT BRITAIN

H.R.H. THE DUKE OF EDINBURGH

Her Majesty The Queen has been graciously pleased to approve the promotion of Commander H.R.H. the Duke of Edinburgh, K.G., K.T., R.N., to Admiral of the Fleet and his appointment as Field-Marshal and Marshal of the Royal Air Force, all with effect from 15th January, 1953.

Her Majesty The Queen has been graciously pleased to approve the appointment of H.R.H. the Duke of Edinburgh, K.G., K.T., as Admiral of the Sea Cadet Corps, Colonel-in-Chief of the Army Cadet Force, and Air Commodore-in-Chief of the Air Training Corps, all with effect from 15th January, 1953.

Imperial Defence College

The following were selected to attend the 1953 course, which started in January :—

Royal Navy.—Captain M. E. Butler-Bowden, O.B.E. ; Captain P. L. Collard ; Captain (E) N. E. Dalton, O.B.E. ; Captain A. C. A. C. Duckworth, D.S.O., D.S.C. ; Captain C. L. G. Evans, D.S.O., D.S.C. ; Captain A. H. C. Gordon-Lennox, D.S.O. ; Captain C. T. Jellicoe, D.S.O., D.S.C. ; Captain K. A. Short, D.S.O. ; Captain B. W. Taylor, D.S.C. Royal Marines.—Lieut.-Colonel F. C. Horton.

Army.—Brigadier R. H. Batten, C.B.E., D.S.O. ; Brigadier R. H. Bellamy, D.S.O. ; Brigadier V. D. G. Campbell, D.S.O., O.B.E. ; Brigadier J. N. Carter, O.B.E. ; Brigadier K. T. Darling, D.S.O., O.B.E. ; Brigadier E. S. Lindsay, C.B.E., D.S.O. ; Brigadier W. G. H. Pike, D.S.O. ; Brigadier F. D. Rome, C.B.E., D.S.O. ; Colonel G. S. Cole, C.B.E. ; Colonel M. A. W. Rowlandson, O.B.E. ; Lieut.-Colonel Lord Thurlow, D.S.O., O.B.E.

Royal Air Force.—Air Commodore E. M. F. Grundy, O.B.E. ; Air Commodore J. R. Hallings-Pott, C.B.E., D.S.O., A.F.C. ; Air Commodore G. I. L. Saye, C.B., O.B.E., A.F.C. ; Group Captain T. N. Coslett, O.B.E. ; Group Captain R. Faville, C.B.E. ; Group Captain C. C. McMullen, C.B.E., A.F.C. ; Group Captain G. J. C. Paul, D.F.C. ; Group Captain V. H. B. Roth, C.B.E. ; Group Captain G. A. Walker, C.B.E., D.S.O., D.F.C., A.D.C.

Canada.—Brigadier J. M. Rockingham, C.B., C.B.E., D.S.O., E.D. ; Air Commodore C. L. Annis, O.B.E., R.C.A.F. ; Air Commodore F. S. Carpenter, A.F.C., C.D., R.C.A.F. ; Mr. J. A. McCordick, Department of External Affairs.

Australia.—Captain R. R. Dowling, D.S.O., R.A.N. ; Colonel A. E. I. Morgan, O.B.E., A.M.F. ; Group Captain C. D. Candy, O.B.E., R.A.A.F.

India.—Captain R. D. Katari, I.N. ; Major-General Daulet Singh, Indian Army ; Air Vice-Marshal S. Mukerjee, I.A.F.

Pakistan.—Major-General M. A. Latif, Pakistan Army ; Mr. S. N. Bakar, Director-General, Civil Defence.

Civil Service (Foreign Service).—Mr. C. D. W. O'Neill, C.M.G. ; Mr. G. E. Millard.

Home Civil Service (Administrators).—Mr. W. Donaldson, Ministry of Food ; Mr. L. J. Hooper, G.C.H.Q. ; Mr. E. M. Bowen, Ministry of Supply ; Mr. R. W. Burkitt, Board of Trade ; Mr. F. A. B. Fawssett, Ministry of Defence (J.I.B.) ; Mr. P. H. Jones, Admiralty ; Mr. E. A. Shillito, Treasury ; Mr. E. C. V. Goad, Ministry of Transport ; Mr. J. S. Bennett, Colonial Office.

Home Civil Service (Scientists).—Mr. F. G. R. Cook, Ministry of Supply.

United States.—Captain Donald W. Gladney, U.S.N. ; Colonel Charles H. Dayhuff, U.S. Army ; Colonel Paul C. Ashworth, U.S.A.F. ; Mr. Elbert C. Mathews, U.S. Foreign Service Officer.

Defence Production

The Prime Minister announced in the House of Commons on 4th December that the Government had decided to carry out some curtailment in defence production in order to prevent any substantial rise in 1953 above the 1952 high level of expenditure on such production. Mr. Churchill explained that the reductions would particularly affect the aircraft industry, but added that the Government, whilst reducing the production of types now in service, would continue to press forward with the construction of the newer and more advanced types of aircraft. He also gave an assurance that the Government's decision in no way implied any weakening in its resolve to carry through a defence programme which would enable Britain to defend herself and fulfil all her obligations overseas and within the N.A.T.O.

A similar statement was made in the House of Lords by the Minister of Defence, Field-Marshal Lord Alexander.

Reservists

The Secretary of State for War, Mr. Head, stated in the House of Commons on 25th November that it was not intended to call up any Army Class "Z" or Royal Air Force Class "G" reservists for training in 1953. He said that over 300,000 men had been called up by the Army during the past two years, enabling the War Office to bring men together in most of the units which would be needed in the early stages of mobilization, and to tide over the period while the Territorial Army was filling up with National Service men.

It was announced on the same date that the Admiralty had issued its last notices recalling Royal Fleet Reservists to service and that, unless the situation changed, no more reservists would be compulsorily recalled beyond those to whom notices had already been issued.

Widows' Pensions

It was announced in the House of Lords on 16th December by Lord De L'Isle and Dudley, V.C., Secretary of State for Air, and in the House of Commons by Mr. Birch, Parliamentary Secretary, Ministry of Defence, that the Government have decided to increase the rates of awards of ordinary pensions to the widows and children of officers and other ranks of the Services, but not the pensions paid to dependants of those whose death was attributable to service.

The effect of the changes (which also apply to corresponding ranks in the Royal Navy and Royal Air Force) is that the basic rate of pension for the widow of a captain in the Army—now £50, or £90 if she is entitled to increases under the pension increases scheme—will be £110. For a lieutenant-colonel's widow whose basic pension rate is £90 a year or £140 with pension increases, the new rate will be £180; for a lieutenant-general's widow it will be increased from £187 10s. (or £252 with increases) to £350.

The scheme has been widened to include other ranks. At present it is restricted to widows of warrant officers, Class I, in the Army, and warrant officers in the R.A.F. In future, widows and children of other ranks will be eligible, provided the man in question has completed certain specified periods of long service. The widow of a warrant officer, Class II, with 22 years' service will receive 12s. 6d. a week, rising to £1 a week for 37 years' service. The widow of a sergeant of 27 years' service will receive 10s. a week, rising to 15s. a week for 37 years' service.

The new rate of allowance for officers' children will be £32 per annum (£50 if motherless), and for children of other ranks 3s. 6d. a week (5s. if motherless). Payment of increased rates will be from 1st December. Alterations in the conditions of award include the abolition of the means test, and the provision that an officer must not be more than 25 years older than his wife and not more than 60 at the time of his marriage. Details are given in a White Paper published by the Stationery Office on 19th January (Cmd. 8741, price 4d.).

Home Guard

The Secretary of State for War, Mr. Head, announced a number of modifications in the organization of the Home Guard on 12th November, based on the experience so far gained. The principal changes were as follows:—

(1) Of the 163 effective battalions East of the line Flamborough Head–Selsey Bill, the peace-time establishment would be reduced from 900 to 300 each.

(2) Of the 418 cadre battalions West of that line, the establishment would be increased from 50 to 100 each.

(3) Every effort would be made to sign on men over and above peace-time establishments, who would be available for immediate enrolment in the event of an emergency. These would be registered as the Home Guard Reserve Roll, which would take the place of the Home Guard Supernumerary Register.

(4) In view of the reduced total which these changes would involve, the Home Guard would be issued with uniforms and greatcoats, whilst members of the Reserve would be entitled to wear the Home Guard badge.

(5) Wherever practical, adjutant-quartermasters would act for more than one battalion, whilst, to assist in organization (particularly in rural areas), the establishment of company headquarters in cadre battalions would be authorized if needed.

In reply to questions, Mr. Head stated that just over 22,000 men had enrolled in the Home Guard, with another 19,000 on the emergency list.

It was pointed out in the Press that the above-mentioned changes would have the effect of reducing the peace-time establishment of the Home Guard from 170,000 to 90,700.

Civil Defence

Mobile Column.—Sir David Maxwell Fyfe, the Home Secretary, opened a depôt for the first civil defence mobile column at Epsom on 3rd January. This mobile column, which is manned by 150 officers and National Service men, is experimental only and is undergoing civil defence training before making a tour of the Country for exercises with local authorities. It consists of reconnaissance and rescue sections, with a small administrative headquarters and communications section, and 60 vehicles. The ambulance component, which is part of a full column and includes women, will be provided by the local authorities visited.

Although this experimental column is only about a quarter of the male strength of a complete column, it will enable organization and tactical problems to be studied. It is hoped that a year's experiment with the unit will decide the pattern of all future mobile columns.

Commandant, Civil Defence Staff College.—It was announced in the Press on 30th October that Major-General J. G. Bruce, C.B., D.S.O., M.C., had been appointed Commandant of the Civil Defence Staff College, Sunningdale Park, in succession to Major-General J. S. Lethbridge, C.B., C.B.E., M.C.

Strengths, Civil Defence Corps and Auxiliary Fire Service.—The Home Office announced on 14th December that recruitment in the Civil Defence Corps in England and Wales during November was the highest since February, 1951. There were 9,493 new members, which made the total strength 231,490. The strength of the Auxiliary Fire Service at the end of November was 13,907.

DOMINIONS AND COLONIES

AUSTRALIA

C.-in-C., British Commonwealth Forces in Korea.—Lieut.-General H. Wells, C.B.E., D.S.O., has been appointed C.-in-C., British Commonwealth Forces in Korea, in succession to Lieut.-General W. Bridgeford, C.B., C.B.E., M.C., who has reached retiring age. The appointment took effect from 13th February.

Creation of Atomic Energy Commission.—Mr. Howard Beale, the Federal Minister for Supply, announced on 27th November that the Australian Government had decided to set up an Atomic Energy Commission to control all Australian activities associated with uranium and atomic energy. The work of the Commission, Mr. Beale stated, would include the mining and refining of uranium, the survey and prospecting of uranium ore, and scientific research into, and the development of, atomic energy for defence and industrial purposes. The members of the Commission would be the Secretary of the Department of Supply, Major-General J. E. S. Stevens, as full-time chairman and executive officer; Professor J. P. Baxter, professor of chemical engineering at the New South Wales University of Technology, and Dr. H. M. Murray, general manager of the Mount Lyell Mining Company, Ltd., both as part-time members.

MANUS ISLAND.—It has been announced by the Federal Government that the rebuilding of the air and naval base at Manus Island is being given high priority and is to be completed in 1954 instead of 1956. Manus is the largest of the Admiralty group of islands off New Guinea, and the United States spent £A250,000,000 in equipping it during the recent war. As a unit in a new network defence system it is of strategic importance, and to Australia it is indispensable.

SOUTH AFRICA

OPENING OF FIRST URANIUM PLANT.—South Africa's first uranium plant, at the West Rand Consolidated mine, Krugersdorp (about 30 miles from Johannesburg), was opened by Dr. Malan on 8th October. The ceremony was attended by Mr. F. C. How of the British Ministry of Supply and by Dr. T. K. Glennan, a member of the U.S. Atomic Energy Commission. Several other mining companies have announced their intention of undertaking the extraction of uranium from the gold residue slime from their mines.

AGREEMENT ON U.S. SUPPLIES OF MILITARY EQUIPMENT.—The conditions under which South Africa would obtain military equipment from the United States were laid down in an exchange of Notes published in Pretoria on 17th October.

Under the agreement, the Union undertook to use any U.S. assistance furnished under the Mutual Defence Assistance Act to promote international peace and security " through measures which will further the ability of nations dedicated to the principles and purposes of the U.N. Charter to participate effectively in arrangements for individual and collective self-defence in support of these principles and purposes." In this connection the Union was " asked to agree to give sympathetic consideration to requests for equipment, materials, and services consistent with the U.N. Charter to be furnished to the U.S.A. and other nations eligible for assistance under the Act."

Other conditions included an assurance that the equipment supplied by the U.S.A. would be used " solely to maintain the Union's internal security, for its legitimate self-defence, and to permit it to participate in the defence of U.N. collective security areas." The Union also undertook not to relinquish, without U.S. consent, title to any equipment supplied; to protect the security of any article, service, or information furnished under the agreement; and to accept the terms and conditions of payment laid down under the U.S. Mutual Defence Assistance Act.

It was officially stated in Pretoria that the Union would spend about £40,000,000 on armaments to be obtained from Britain and the U.S.A., and that, while a formal agreement had been concluded with the U.S. Government, a less formal but clear understanding had been reached with the British Government.

INDIA

TREATY OF FRIENDSHIP WITH IRAQ

A treaty of friendship between India and Iraq was signed in Baghdad on 11th November by Mr. Khub Chand, the Indian Ambassador, and Mr. Syed Jamel Baba, the Iraqi Minister for Foreign Affairs. Modelled on other friendship treaties between India and Middle Eastern countries, it provided for " perpetual peace and friendship " between the two countries, the strengthening of their cultural ties, mutual assistance in industrial and agricultural progress, and the settlement of any differences over the interpretation or application of the treaty by diplomatic negotiations or, if no settlement were arrived at within reasonable time, by arbitration.

BERMUDA

WITHDRAWAL OF BRITISH GARRISON

The War Office announced with regret on 9th November that in present circumstances it was obliged to withdraw the British garrison (consisting of 154 officers and men) from Bermuda, and that the withdrawal would be completed by 1st May, 1953, with the exception of a small British permanent staff which would remain to assist in training the

local forces. A British military garrison has been maintained in the island for about 250 years. The Royal Navy closed down its dockyard there in March, 1951, as an economy measure. The responsibility for the defence of Bermuda now rests with the N.A.T.O., as the island comes within the operational area of the Supreme Allied Commander, Atlantic.

FOREIGN

BELGIUM

British Base in Antwerp

An agreement concerning the establishment of a British base in Antwerp province, and the status of British forces stationed there or passing through Belgian territory, was concluded between the British and Belgian Governments on 12th November.

The Stationery Office has published as a White Paper the text of the agreement, and the construction of the base is already under way.

Besides providing for the establishment of this base the agreement gives to the Belgian Government the right to establish a similar base in Britain. Any disputes as to the application of the agreement are to be settled by arbitration, but if the two Governments fail to agree upon the choice of an arbitrator the arbitrator is to be appointed by the Secretary-General of the N.A.T.O.

The cost of establishing and maintaining the base will be met by Britain and Belgium in proportions to be agreed between them, in accordance with the agreements regulating the status of the N.A.T.O. forces. When the construction of the base began in 1951 the cost for expropriations was estimated at about £4,285,000 to be paid by Belgium, and the cost for building the base was assessed at about £9,285,000, to be shared by the two countries.

FRANCE

Appointment of new French Commandant in Berlin

General Pierre Carolet, the French Commandant in Berlin, vacated this post on 31st December to take over the command of a French division, being succeeded in Berlin by Brigadier-General Manceaux-Demiau.

GREECE

Greco-Yugoslav Military Conference

A Yugoslav military delegation, headed by Major-General Shumonia, spent four days in Athens at the end of December conferring with the Greek General Staff on problems of common defence. An official statement issued on 30th December by the Greek General Staff said :—" Both countries have shown deep understanding and a sincere desire to solve problems of common interest. They have a firm determination to continue and to reinforce their co-operation for the maintenance of peace."

JAPAN

Defence Budget

The Japanese Finance Minister, Mr. Muhai, presented the draft of his 1953–54 budget totalling 946,000 million yen (about £946 m.) to the Japanese Cabinet on 31st December. He proposes to increase defence expenditure by nearly 10,000 million yen (about £10 m.) to 230,000 million yen (about £230 m.). The Liberal Party is urging a reduction in defence expenditure.

TURKEY

Visit of Turkish Premier and Foreign Minister.—The Turkish Prime Minister and Foreign Minister, M. Adnan Menderes and Professor Fuat Köprülü, paid an official visit to London from 13th to 18th October. On 16th and 18th October they had conferences at the Foreign Office with Mr. Eden and Field-Marshal Lord Alexander, the

Minister of Defence, at which the Chief of the Imperial General Staff (then Field-Marshal Sir William Slim) and the Chief Staff Officer to the Minister of Defence (then Lieut.-General Sir Ian Jacob) were present.

NEW DEFENCE MINISTER.—It was announced in Ankara on 4th November that M. Seyfi Kurtbek had been appointed Minister of National Defence in succession to M. Hulusi Köymen.

UNITED STATES

PRESIDENT EISENHOWER'S ADMINISTRATION. NOMINATIONS.—The following nominations to posts in President Eisenhower's administration were announced on 19th December :—Secretary of Defence—Mr. Charles Erwin Wilson ; Deputy Secretary of Defence—Mr. Roger M. Kyes ; Secretary of the Navy—Mr. Robert B. Anderson ; Secretary of the Army—Mr. Robert T. B. Stevens ; Secretary of the Air Force—Mr. Harold E. Talbott.

NEW COMMANDANT IN BERLIN.—It was announced by U.S. Army Headquarters, Heidelberg, on 26th December that Major-General Lemuel Mathewson, the U.S. Commandant in Berlin, would leave that post at the beginning of January to become the head of the U.S. Army's supply and communications network in France, and that he would be succeeded in Berlin by Major-General Thomas Timberman, Commander of the U.S. 1st Infantry Division in Germany.

NOTICE

KING EDWARD VII'S HOSPITAL FOR OFFICERS

This hospital, founded by Sister Agnes (Miss Agnes Keyser) in 1899 in her own house, 17, Grosvenor Crescent, was destroyed by enemy action in January, 1941, and the present building, Beaumont House, Beaumont Street, London, W.1, was opened in October, 1948, by Her Majesty Queen Mary.

The hospital has both single rooms and small wards. All commissioned officers of the three Services, serving, retired or ex-temporary, are eligible for admission.

The Council has as its object the provision of accommodation at the lowest possible cost. Patients who were subscribers before the necessity to enter hospital became apparent pay 10 guineas a week for private rooms, and 7 guineas for ward beds ; non-subscribers are asked to pay more. A number of ward beds are set aside for serving officers who are entitled to free nursing and maintenance. Extra charges are kept to the minimum, and are constantly reviewed. The ability of the patient to pay is always considered.

The hospital is mainly for surgical and medical cases, and has its own medical officer (from whom subscribers can obtain preliminary advice without charge), a physiotherapist, and an X-ray apparatus.

The hospital has its own consultant staff, whose fees are in accordance with the patient's means, on a scale approved by the Council. Patients may, however, still make their own arrangements with any physician or surgeon of their choice if they so desire.

The hospital has been disclaimed by the Minister of Health, and is therefore entirely dependent on voluntary support. Subscribers are asked to pay £1 yearly by banker's order, which can be obtained from the Honorary Appeal Secretary, Commander Sir Jameson Adams, K.C.V.O., C.B.E., D.S.O., R.N.R., 15, Ormond Yard, Duke of York Street, S.W.1, who will be pleased to receive donations.

NAVY NOTES

GREAT BRITAIN

H.M. The Queen

Coronation Review.—The Queen has approved that a Coronation Review of the Fleet shall be held at Spithead on Monday, 15th June.

Royal Yacht.—The Admiralty announced on 20th November that the small hospital ship to be used in peace-time as a Royal Yacht is expected to be completed at the end of 1953, and that The Queen has seen and approved a model showing the general arrangements.

Visit to Lee.—The Queen visited the Home Air Command at Lee-on-Solent on 21st November. Eight naval Dragonfly (S.51) helicopters took part in a fly past, and two of them escorted The Queen's car for four miles as Her Majesty proceeded from Fort Brockhurst railway station to the Royal Naval Barracks, the first time a Sovereign had been escorted in this manner.

Aide-de-Camp.—Captain (S) A. S. Wiggett, R.N., has been appointed a Naval Aide-de-Camp to The Queen to date 25th September, 1952, in place of Captain (S) F. D. Pearce, R.N., placed on the Retired List.

Hon. Physician.—Surgeon Rear-Admiral S. G. Rainsford, Deputy Medical Director-General, has been appointed Honorary Physician to The Queen from 6th November, 1952.

Hon. Chaplain.—The Rev. F. D. Bunt, O.B.E., R.N., has been appointed Honorary Chaplain to The Queen in succession to the Rev. D. J. N. Wanstall, C.B.E., R.N., placed on the Retired List, to date 30th November, 1952.

H.R.H. The Duke of Edinburgh

Chatham Memorial Extension.—The Duke of Edinburgh unveiled on 15th October the 1939–1945 extension to the Chatham Naval War Memorial in the Great Lines at Gillingham. The extension commemorates 9,946 men and women of the Royal Navy, Royal Marines, W.R.N.S., and the maritime regiments who lost their lives.

R.M. Commando Colours.—During a week's visit by air to Malta in November, the Duke of Edinburgh on the 29th presented Queen's and Regimental Colours to three units—the 40th, 42nd, and 45th—of the Third Commando Brigade, Royal Marines. The six new Colours were consecrated in St. Paul's Anglican Cathedral by Archdeacon F. N. Chamberlain, Chaplain of the Fleet.

The Navy Lodge.—The Duke of Edinburgh was initiated into the craft of Freemasonary at a meeting of the Navy Lodge held in London on 5th December. Lord Scarbrough, Grand Master of the United Grand Lodge of England, was present at the ceremony. King George VI, as Duke of York, was initiated as a member of this Lodge in 1919.

H.M. The Queen Mother

Queen Elizabeth the Queen Mother will visit Portsmouth on 29th April to unveil the extension commemorating the dead in the 1939–45 War at the Naval Memorial on Southsea Common. The extension takes the form of a sunken garden on the walls of which will be 78 bronze panels bearing the names of those belonging to the port who lost their lives.

Board of Admiralty

Far East Tour.—The First Sea Lord, Admiral Sir Rhoderick McGrigor, returned to London by air on 25th October from a four weeks' tour of naval establishments in the East and Far East, during which he visited, with only one exception, every Commonwealth warship operating in Korean waters. He returned via Canada, where he conferred with senior officers of the Royal Canadian Navy.

MALTA VISIT.—Commander A. H. P. Noble, R.N., Parliamentary and Financial Secretary to the Admiralty, visited the Mediterranean Fleet during the Christmas recess, flying to Malta on 9th January.

HONOURS AND AWARDS

NEW YEAR HONOURS

The following were included in the New Year Honours List:—

G.C.B.—Admiral Sir John H. Edelsten, K.C.B., C.B.E.

K.C.B.—Vice-Admiral Charles E. Lambe, C.B., C.V.O.; Vice-Admiral (S) William McBride, C.B., C.B.E.

C.B.—Rear-Admiral Sir Anthony Buzzard, Bart., D.S.O., O.B.E.; Rear-Admiral J. W. Cuthbert, C.B.E.; Surgeon Rear-Admiral T. N. D'Arcy, C.B.E.; Rear-Admiral (E) F. T. Mason; Rear-Admiral W. G. A. Robson, D.S.O., D.S.C.; Instructor Captain H. V. Rumsey, M.M., R.N.; Rear-Admiral A. D. Torlesse, D.S.O.; Rear-Admiral R. S. Warne, C.B.E.

G.B.E.—Admiral Sir Cecil H. J. Harcourt, K.C.B., C.B.E.

K.B.E.—Surgeon Vice-Admiral K. A. Ingleby MacKenzie, C.B.; Vice-Admiral Cecil A. L. Mansergh, C.B., D.S.C.

KOREA MEDAL

The Queen has approved the inclusion of officers and men of the Merchant Navy in the categories eligible to receive the Korea Medal. For the Merchant Navy generally, including R.A.S.C. ships, the qualification will be 28 days' service afloat, on or after 2nd July, 1950, in ships or craft in, or standing off, a Korean port. For the Royal Fleet Auxiliaries, the qualification will be 28 days' service afloat, on or after 2nd July, 1950, in ships operating in Korean waters, in support of the Royal Navy, under conditions in which service in H.M. Ships would qualify. Service must have been in the actual area of operations.

FLAG APPOINTMENTS

SECOND SEA LORD.—Vice-Admiral F. R. Parham, C.B., C.B.E., D.S.O., appointed a Lord Commissioner of the Admiralty, Second Sea Lord, and Chief of Naval Personnel, in succession to Admiral Sir Alexander C. G. Madden, K.C.B., C.B.E. (July, 1953).

CENTRAL EUROPE.—Rear-Admiral C. D. Howard-Johnston, D.S.O., D.S.C., appointed Chief of Staff to the Flag Officer Central Europe, in succession to Rear-Admiral P. G. L. Cazalet, C.B., D.S.O., D.S.C. (January, 1953).

D. C. N. P. (P.S.).—Rear-Admiral H. W. Biggs, D.S.O., appointed Deputy Chief of Naval Personnel (Personal Services), in succession to Rear-Admiral D. M. Lees, C.B., D.S.O. (January, 1953).

PORTSMOUTH.—Rear-Admiral B. I. Robertshaw, C.B.E., appointed Chief of Staff to the Commander-in-Chief, Portsmouth, in succession to Rear-Admiral J. P. L. Reid, C.B. (February, 1953).

A.C.R.—Rear-Admiral I. M. R. Campbell, C.B., D.S.O., appointed Admiral Commanding Reserves (temporarily) in succession to Vice-Admiral J. A. S. Eccles, C.B., C.B.E. (January, 1953). Rear-Admiral Campbell will be relieved by Rear-Admiral A. K. Scott-Moncrieff, C.B., C.B.E., D.S.O., on completion of the latter's convalescence after an illness contracted while serving in Korean waters.

A.C.N.S. (W).—Captain A. R. Pedder, R.N., appointed Assistant Chief of Naval Staff (Warfare), in succession to Rear-Admiral G. Barnard, C.B.E., D.S.O. (January, 1953).

ENGINEER-IN-CHIEF.—Rear-Admiral (E) F. T. Mason, C.B., appointed Engineer-in-Chief of the Fleet, in succession to Vice-Admiral (E) the Hon. Sir Denis C. Maxwell, K.C.B., C.B.E. (about the end of April, 1953).

Retirements and Promotions

Rear-Admiral D. H. Everett, C.B., C.B.E., D.S.O., placed on the Retired List (31st October, 1952).

Vice-Admiral Sir Geoffrey A. B. Hawkins, K.B.E., C.B., M.V.O., D.S.C., placed on the Retired List (4th December, 1952).

Rear-Admiral J. F. Stevens, C.B., C.B.E., promoted to Vice-Admiral in H.M. Fleet (4th December, 1952).

Rear-Admiral R. M. J. Hutton, C.B., C.B.E., D.S.O., placed on the Retired List (8th January, 1953).

Surgeon Rear-Admiral F. G. Hunt, C.B., C.B.E., placed on the Retired List (6th November, 1952).

Surgeon Captain (Dental) F. R. P. Williams, C.B.E., promoted to Surgeon Rear-Admiral (Dental) (1st October, 1952).

Half-Yearly Lists

The Admiralty announced the following promotions and retirements to date 8th January, 1953 :—

To be promoted to Rear-Admiral in H.M. Fleet :—

Captain C. D. Howard-Johnston, D.S.O., D.S.C.
Captain B. I. Robertshaw, C.B.E.
Captain H. W. Biggs, D.S.O.
Captain (Commodore 2nd Class) F. A. Ballance, D.S.O.
Captain G. Willoughby.
Captain W. H. Selby, D.S.C.
Captain L. F. Durnford-Slater.

To be placed on the Retired List in the Rank of Captain :—

Captain St. J. Cronyn, C.B.E., D.S.O.
Captain J. H. Allison, D.S.O.
Captain H. G. Cooke.
Captain H. F. H. Layman, D.S.O.
Captain D. Hammersley Johnston, M.V.O., O.B.E.
Captain J. I. Robertson, C.B.E.
Captain C. N. Lentaigne, D.S.O.

The following promotions were announced to date from 31st December, 1952 :—

Commander to Captain.—G. M. Bennett, D.S.C. ; R. G. W. Hare, O.B.E. ; A. J. F. Milne-Home ; L. W. Napier, D.S.O., D.S.C. ; J. S. Milner ; C. W. Malins, D.S.O., D.S.C. (acting Captain) ; P. N. Buckley, D.S.O. ; M. C. Creagh-Osborne ; E. T. Graham ; J. V. Wilkinson, D.S.O., G.M. ; E. N. Sinclair, D.S.C. ; R. L. Alexander, D.S.O., D.S.C. (acting Captain) ; C. E. Pollock, D.S.C. ; B. S. Pemberton (acting Captain) ; M. G. Greig, D.S.C. (acting Captain) ; M. G. Haworth, D.S.C. ; J. M. D. Gray, O.B.E. ; P. J. Hill-Norton ; T. W. B. Shaw, D.S.C. ; J. E. Jowitt, D.S.C.

Commander (E) to Captain (E).—W. B. Axford, O.B.E. ; A. B. Chibnall ; W. L. G. Porter ; D. J. Hoare.

Instructor Commander to Instructor Captain.—D. C. Mackay, B.Sc.

Surgeon Commander to Surgeon Captain.—J. Johnston, M.B., Ch.B. ; E. J. Mockler, M.B., B.Ch., D.P.H. ; W. V. Beach, O.B.E., F.R.C.S., L.R.C.P. (acting Surgeon Captain).

Commander (S) to Captain (S).—W. E. Brockman ; G. H. Ashby, O.B.E. ; J. S. S. Smith, O.B.E. ; M. H. Knott, O.B.E.

Exercises and Cruises

Greenland Sea.—Ships of the Home Fleet proceeded to the Greenland Sea in November as part of their Autumn cruise and training programme. The force included the battleship *Vanguard*, flagship of Admiral Sir George Creasy, Commander-in-Chief; the aircraft carrier *Eagle*; the Navy's most modern destroyer *Diamond*; three of the latest anti-submarine frigate conversions, the *Venus*, *Verulam*, and *Virago*; other destroyers, some submarines, a tanker, and a tug. The cruiser *Swiftsure* visited Iceland and joined the force at sea. The cruise was designed to give officers and ratings experience of operations in severe weather conditions, to test equipment and communications, and to include fleet manœuvres and anti-submarine exercises with carrier-borne and maritime aircraft taking part.

Mediterranean.—The aircraft carrier *Theseus* returned to Portsmouth on 10th December from temporary Mediterranean service. For a week from 3rd November the *Theseus*, accompanied by the destroyers *Chivalrous* and *Chevron*, visited Trieste. From 11th to 13th November the destroyers *Chequers* and *Chivalrous* paid an informal visit to Dubrovnik, Yugoslavia.

East Indies.—To assist if needed in the maintenance of law and order during the recent civil action taken against the Mau Mau in Kenya, the cruiser *Kenya* proceeded to Mombasa from Colombo towards the end of October. The frigate *Flamingo* returned to Devonport on 3rd November after more than three years on the East Indies Station, most of the time attached to the Persian Gulf Division. For the inauguration of the new Republic of the Maldives on 1st January at Male, the capital, the cruiser *Ceylon* left Colombo on 30th December conveying Sir Cecil Syers, the United Kingdom High Commissioner in Ceylon, and Lady Syers. The ceremony was attended by the Captain and ship's company of the *Ceylon* and the Commander and company of the *Vijaya*, of the Royal Ceylon Navy.

Far East.—The light fleet carrier *Ocean*, relieved in Korea by the *Glory*, returned to the Mediterranean in November. The frigate *Amethyst* returned to Devonport on 15th December from the Far East, where she had served since 1950 after being refitted following the damage sustained in the Yangtse incident. The frigate *Modeste* left Portsmouth on 5th January for Korea, where she will relieve the *Alacrity*. Admiral the Hon. Sir Guy Russell, Commander-in-Chief, Far East Station, arrived at Saigon on 25th November, in the frigate *Alert* for a four-day visit to Indo-China.

Special Squadron.—The escort carrier *Campania*, flagship of the Special Squadron commanded by Rear-Admiral A. D. Torlesse which took part in the atomic weapon test at the Monte Bello Islands in October, arrived at Portsmouth on 15th December. The *Campania* brought home eight Ministry of Supply officials, some of the equipment used in the test, three helicopters of 705 Naval Squadron, and the Naval Sea Otter aircraft which operated during the test. The landing ship *Striker* returned to Portsmouth on 11th December.

America and West Indies.—The cruiser *Sheffield*, after service as flagship, returned to Portsmouth on 4th December. She has been relieved by the cruiser *Superb*, and will serve next with the Home Fleet. The frigates *Burghead Bay* and *Veryan Bay* arrived at Devonport on 30th October from the West Indies, where they have been replaced by the *Snipe* and *Bigbury Bay*.

South Atlantic.—On 3rd November, the Admiralty stated that the frigate *Actaeon* had visited the island of Tristan da Cunha, the first visit to the island by a British warship for several years. The ship brought to the island from South Africa a Bishop who confirmed 26 children and young people at the first island confirmation for five years; a fleet dental officer who examined the teeth of the entire population of 245, continuing surveys made in 1932 and 1937 on behalf of the Ministry of Health; a representative of the South African Broadcasting Corporation who prepared a recording; and others, including a clergyman assuming office on the island with his wife and three children.

Personnel

Permanent Commissions.—On 24th October, it was announced in a Parliamentary written reply by the First Lord of the Admiralty that it is not intended to grant further permanent commissions in the Royal Navy to officers who now hold extended service commissions.

Convoy Memorial.—A Memorial to the Commodores of Convoy and their staffs who lost their lives in the late war was unveiled in the Chapel of the Royal Naval College, Greenwich, on Friday, 21st November. Officers and men of the armed merchant cruisers escorting convoys who gave their lives are included. The numbers involved are of interest: 21 commodores; 111 petty officers and men of Convoy Signal Staff; four captains, 159 officers, and 795 petty officers and men of 14 armed merchant cruisers.

Surgeon Rear-Admiral (Dental).—An Order in Council dated 4th December states that the duties of the senior dental officer of H. M. Navy have increased in scope and justify the officer so appointed being granted the rank of Surgeon Rear-Admiral (Dental) in H. M. Navy. Compulsory retirement will be on ceasing to hold the appointment or on attaining the age of 60 if not superseded before. Full pay and allowances will be as for a Rear-Admiral.

Materiel

New Construction.—The third of the *Daring* class destroyers, H.M.S. *Duchess*, was accepted into service early in November, and the fourth, H.M.S. *Defender*, a month later. The first of the new coastal minesweepers, H.M.S. *Coniston*, carried out her trials successfully on 15th December. Another, H.M.S. *Burnaston*, was launched on 18th December. Two inshore minesweepers were launched, the *Altham* on 2nd December and the *Chillingham* on 19th December.

Gas Turbine Units.—In December, the Admiralty released some information concerning the progress which is being made in the development of gas turbine engines for the propulsion of fast coastal craft. Two types of gas turbine engines are being developed under Admiralty contract by British firms, the R.M. 60 by the Rolls Royce Company and the G.2 by the Metropolitan Vickers Company. The Admiralty decided to instal these two power units in the *Grey Goose*, a gunboat of 205 tons completed in 1942 and originally powered by two steam turbines. Installation of the new engines will start in 1953.

Prefabricated Frigate.—On 7th January, the Admiralty announced that the first of a new class of anti-submarine frigate had been laid down at the Birkenhead yard of Cammell Laird and Co., Limited. The ship has been prefabricated and the sections will be welded together on the slipway. In designing this class, naval architects have planned the hull as simply and economically as possible to facilitate mass production. The new vessel is one of the largest warships to have been constructed by prefabrication methods in a British shipyard.

Submarine Marker Buoy.—A new type of submarine marker buoy for H. M. Submarines has been approved by the Admiralty following trials at sea. It is constructed of light metal alloy and is ingeniously designed to combine strength, compactness, and buoyancy adequate to support warning devices. A flashing light unit is at present installed, and active investigations are being conducted to provide the buoy with a radio transmitter.

Naval Aviation

Helicopters for Malaya.—The Royal Navy's No. 848 Squadron of S.55 helicopters, provided by the United States under the Mutual Defence Assistance Programme, left Portsmouth for Malaya shortly before Christmas in the aircraft carrier *Perseus*. Fourteen officers and 80 ratings of the squadron are being sent to Malaya to assist in jungle operations against the bandits.

NEW FLIGHT DECK.—A new flight deck arrangement has been devised by the Royal Navy and the Ministry of Supply and is being developed simultaneously both in the United States and the United Kingdom. Known as the 'angled' deck in the Royal Navy and the 'canted' deck in the United States Navy, the arrangement embodies a new approach to the problem of flying aircraft on to ships, whereby aircraft fly on at an angle of about eight degrees to the fore and aft line. If not brought up by the normal method of arrester wires, they may fly straight off over the side of the flight deck without altering course and return for another attempt. The conventional barrier intended to stop aircraft which occasionally overshoot the arrester wires may now normally be eliminated.

ROYAL NAVAL RESERVE

NEW RANK.—An Order in Council of 25th November sanctions the introduction of the rank of Commander (Patrol Service), Royal Naval Reserve, and the ranks and titles of Honorary Commander (Patrol Service), R.N.R., and Honorary Lieutenant-Commander (Patrol Service), R.N.R., to be awarded to gentlemen who, in the opinion of the Admiralty, are rendering or have rendered such exceptional service in promoting the interests of the Reserves as to merit recognition by the award of Honorary Commissions in these ranks. Promotion to the rank of Commander (P.S.), R.N.R., is to be by selection from Lieutenant-Commanders or Lieutenant-Commanders (P.S.), R.N.R.

PROMOTIONS.—The following officers were promoted from Commander to Captain in the half-yearly list, to date 31st December, 1952:—J. M. Rayner, R.D.; L. A. Hill, D.S.C., R.D.

ROYAL NAVAL VOLUNTEER RESERVE

PERMANENT R.N. COMMISSIONS.—A limited number of National Service officers in the Executive Branch of the R.N.V.R., said an Admiralty announcement on 8th November, are to be selected for permanent commissions in the Executive Branch of the Royal Navy. This decision is an exceptional measure confined to 1952 and is to meet the deficiencies in the number of junior executive officers which appear in certain age groups. All National Service officers serving between 1st September and 31st December, 1952, as midshipmen or acting sub-lieutenants of the Executive Branch for whole-time National Service are eligible. The grant of these commissions will not reduce the number of promotions to commissioned rank available to the Lower Deck.

PROMOTION.—The following officer was promoted from Commander to Captain in the half-yearly list, to date 31st December, 1952:—J. A. Creed, V.R.D.

ROYAL MARINES

HON. COMMANDANT.—Major-General C. R. W. Lamplough, C.B.E., D.S.C., has succeeded Lieutenant-General Sir Robert Sturges, K.B.E., C.B., D.S.O., as Honorary Colonel Commandant, Plymouth Group, Royal Marines.

PROMOTION.—The following was included in the New Year List:—

Lieutenant-Colonel to Colonel.—A. J. Harvey, O.B.E.

DOMINIONS AND COLONIES

AUSTRALIA

PROMOTIONS.—The following were among the half-yearly promotions announced by the Commonwealth Naval Board, to date 31st December, 1952:—

Commander to Captain.—T. K. Morrison, O.B.E., D.S.C. (acting Captain).

Commander (E) to Captain (E).—A. M. Clift.

Commander (S) to Captain (S).—R. F. Hatherell, D.S.C.

CARRIER TRANSFERRED.—H.M.S. *Vengeance*, the light fleet carrier being lent to the Royal Australian Navy, was turned over to an Australian naval steaming party at Devonport on 13th November. She will become Australia's second aircraft carrier and will be used until another light fleet carrier, at present building in the United Kingdom, is completed.

CANADA

PROMOTIONS.—The following were among the half-yearly promotions announced by the Department of National Defence, Ottawa, to date from 1st January, 1953 :—

Commander to Captain.—J. C. Littler; H. V. W. Groos, C.D.; M. G. Stirling, C.D.; W. M. Landymore, C.D.

Commander (L) to Captain (L).—J. Deane; F. T. Gillespie.

Surgeon Commander to Surgeon Captain.—T. B. McLean, M.D.

PAKISTAN

NEW YEAR HONOUR

The following was included in the New Year Honours List :—

C.B.—Rear-Admiral J. W. Jefford, C.B.E., Commander-in-Chief, Royal Pakistan Navy.

INDIA

LOAN OF FRIGATES.—The Admiralty announced on 27th October that arrangements had been made to lend H.M. Ships *Bedale*, *Chiddingfold*, and *Lamerton* to the Indian Navy for a period of three years, subject to extension by agreement, the vessels to be returned on request in an emergency. The ships are now being refitted at the expense of the Government of India in commercial shipyards on Merseyside. The purpose of the loan is to assist India's naval training programme.

NEW CREST.—The Indian Navy has adopted a new crest for badges, letterheads, and other forms of display. In the new design the Crown, which surmounted an anchor in the original crest, has been replaced by the three Asoka Lions, as in the symbol of the Republic of India. The word " India " which was carried on a scroll under the old crest has been replaced by the motto " Shan no Varunah," meaning " May Ocean (God) be auspicious unto us." The words are taken from the Vedas. The original anchor has been retained.

FOREIGN

DENMARK

GROUNDING

The gunboat *Haboernen*, which had come from Copenhagen to join in an exercise with British coastal forces, grounded on the night of 2nd December on the Scroby sand-bank, off Great Yarmouth. The vessel was still aground at the end of the month.

FRANCE

MALTA VISIT

Vice-Admiral L. M. P. A. Sala, Commander-in-Chief, French Naval Forces, Mediterranean, with his flag in the cruiser *Georges Leygues*, arrived at Malta on 18th November on a two-day visit to the British Commander-in-Chief, Admiral Lord Mountbatten.

GREECE

Exercises

It was announced at Athens on 6th January that the British aircraft carrier *Ocean*, which had arrived in Suda Bay, Crete, escorted by two destroyers, *Vigo* and *Chevron*, would take part in local combined exercises with units of the Greek Fleet, Army, and Air Force.

NORWAY

New M.T.B.

The new motor torpedo boat *Rapp*, completed in November, has been built in Norway and equipped with American Packard motors. Commodore Rudolf Henriksen said that it is faster and has greater manœuvrability than any British, American, or German M.T.B. used by the Norwegian Navy.

UNITED STATES

Spanish Visit.—Ships of the Sixth Fleet under Vice-Admiral Cassady visited Barcelona from 9th to 15th January. They included the aircraft carrier *Midway* and heavy cruiser *Columbus*. Other units called at Malaga, Seville, Palma de Majorca, Valencia, Alicante, and other ports, there being 35 ships in all.

Atomic Power Plants.—At the keel-laying of the new aircraft carrier *Saratoga* on 16th December, the Secretary of the Navy, Mr. Dan Kimball, expressed the hope that one of the further large carriers which it is hoped Congress will authorize will be driven by a plant using nuclear materials. Submarines are being completed using such power plants, and the contract had already been met for an experimental plant for a larger vessel.

VENEZUELA

Destroyer Launched

The destroyer *Nueva Esparta*, one of three ordered in 1951, was launched from the Barrow shipyard of Vickers-Armstrongs on 19th November, by the wife of the Venezuelan Ambassador, Madame Sosa Rodriguez. A sistership, the *Zulia*, is building at Barrow.

YUGOSLAVIA

Malta Visit

Vice-Admiral Josip Cerni, of the Yugoslav Navy, and two staff officers returned to Belgrade on 25th October from a two-day visit to Malta as guests of Admiral Lord Mountbatten.

ARMY NOTES

GREAT BRITAIN

H.M. The Queen

The Duke of Edinburgh visited the Military College of Science, Shrivenham, on 21st November.

Queen Elizabeth the Queen Mother unveiled the War Memorial of The London Scottish, of which Regiment Her Majesty is Honorary Colonel, at 59, Buckingham Gate, on 1st December.

The Princess Royal, Controller Commandant, attended a conference of the Women's Royal Army Corps in London on 8th December.

The Duchess of Gloucester, as Colonel-in-Chief of the Regiment, was present at Liverpool on 18th December upon the return of the 1st Battalion, The King's Own Scottish Borderers, from service in Korea.

The Queen has been graciously pleased to approve the following appointments :—

To be Aides-de-Camp to the Queen.—Brigadier R. H. Maxwell, C.B., late Infantry (13th August, 1952), vice Brigadier J. B. Churcher, C.B., D.S.O., promoted ; Brigadier R. G. Thurburn, C.B., C.B.E., late Infantry (15th September, 1952), vice Brigadier K. Bayley, C.B.E., promoted ; Brigadier C. A. H. Chadwick, C.B.E., late Royal Signals (4th November, 1952), vice Brigadier R. H. R. Steward, C.B., C.B.E., D.S.O., M.C., retired.

To be Colonels Commandant.—Of the Royal Regiment of Artillery, Major-General J. A. Sinclair, C.B., O.B.E. (3rd December, 1952), vice Lieut.-General Sir Henry R. Pownall, K.C.B., K.B.E., D.S.O., M.C., tenure expired ; of the Royal Corps of Signals, Colonel (Honorary Major-General) Sir Hubert E. Rance, G.C.M.G., G.B.E., C.B. (1st January, 1953), vice Major-General R. F. B. Naylor, C.B., C.B.E., D.S.O., M.C., resigned.

To be Colonels of Regiments.—Of the Royal Welch Fusiliers, Major-General Sir Hugh Stockwell, K.B.E., C.B., D.S.O. (18th October, 1952), vice Colonel (Honorary Brigadier) E. O. Skaife, C.B., O.B.E., tenure expired.

Honours and Awards

The following were included in the New Year Honours List :—

K.C.B.—General Sir Richard N. Gale, K.B.E., C.B., D.S.O., M.C. ; General Sir Cameron G. G. Nicholson, K.B.E., C.B., D.S.O., M.C.

C.B.—Major-General K. Bayley, C.B.E. ; Major-General A. J. Beveridge, O.B.E., M.C., M.B., Q.H.P. ; Major-General B. A. Coad, C.B.E., D.S.O. ; Major-General S. A. Cooke, O.B.E. ; Major-General L. E. Cutforth, C.B.E. ; Brigadier L. F. Field, C.B.E. ; Major-General R. W. Goodbody, D.S.O. ; Major-General W. E. G. Hemming, C.B.E. ; Major-General L. E. C. M. Perowne, C.B.E., A.M.I.E.E. ; Major-General J. C. Walkey, C.B.E. ; Major-General M. S. Wheatley, C.B.E. ; Major-General (temporary) H. Williams, C.B.E. ; Major-General J. H. O. Wilsey, C.B.E., D.S.O.

K.B.E.—Lieut.-General E. E. Down, C.B., C.B.E. ; Lieut.-General F. Harris, C.B., C.B.E., M.C., M.B., Q.H.S. ; Lieut.-General A. D. Ward, C.B., C.B.E., D.S.O.

Royal Red Cross, First Class.—Major Margery F. Mallet, Q.A.R.A.N.C. ; Major Irene I. Scruton, Q.A.R.A.N.C.

Army Council

The Queen has been pleased by Letters Patent under the Great Seal bearing the date 1st November, 1952, to appoint the following to be Her Majesty's Army Council :—

Brigadier the Rt. Hon. A. H. Head, C.B.E., M.C.—*President.*
Colonel J. R. H. Hutchison, D.S.O., T.D., T.A.—*Vice-President.*
General Sir John Harding, G.C.B., C.B.E., D.S.O., M.C., A.D.C.
General Sir John T. Crocker, G.C.B., K.B.E., D.S.O., M.C.
General Sir Ouvry L. Roberts, K.C.B., K.B.E., D.S.O., A.D.C.
Lieut.-General H. Redman, C.B., C.B.E.
Lieut.-General Sir John F. M. Whiteley, K.C.B., C.B.E., M.C.
Sir George W. Turner, K.C.B., K.B.E.

Appointments

Ministry of Defence.—Lieut.-General Sir Nevil C. D. Brownjohn, K.C.B., C.M.G., O.B.E., M.C., appointed Chief Staff Officer, Ministry of Defence (1st December, 1952).

Ministry of Supply.—Colonel (temporary Brigadier) H. MacG. Patterson, appointed Director-General of Artillery, Ministry of Supply, with the temporary rank of Major-General (March, 1953).

Major-General H. R. B. Foote, V.C., C.B., D.S.O., appointed Director-General Fighting Vehicles, Ministry of Supply (May, 1953).

War Office.—Major-General H. Redman, C.B., C.B.E., appointed Vice-Chief of the Imperial General Staff, with the temporary rank of Lieut.-General (22nd October, 1952). Substituted for the notification in the November, 1952, Journal.

Colonel (temporary Brigadier) G. S. Thompson, D.S.O., M.B.E., appointed Director Land/Air Warfare and Director for N.A.T.O. Standardization, with the temporary rank of Major-General (15th December, 1952). Substituted for the notification in the November, 1952, Journal.

Colonel (temporary Brigadier) F. M. Hext, O.B.E., appointed Inspector of the Royal Electrical and Mechanical Engineers, with the temporary rank of Major-General (April, 1953).

United Kingdom.—Major-General E. M. Bastyan, C.B., C.B.E., appointed G.O.C. Mid-West District and of an Infantry Division, T.A. (23rd October, 1952). Substituted for the notification in the August, 1952, Journal.

Colonel (temporary Brigadier) J. G. Cowley, C.B.E., A.M., appointed Chief of Staff, Headquarters, Eastern Command, with the temporary rank of Major-General (22nd January, 1953).

Major-General M. S. Chilton, C.B., C.B.E., appointed G.O.C.-in-C., Anti-Aircraft Command, with the temporary rank of Lieut.-General (June, 1953).

S.H.A.P.E.—Major-General Ll. Wansbrough-Jones, C.B., C.B.E., appointed Principal Staff Officer to the Deputy Supreme Commander, Allied Powers, Europe (17th October, 1952). Substituted for the notification in the November, 1952, Journal.

Germany.—Major-General H. E. Pyman, C.B., C.B.E., D.S.O., appointed G.O.C., 11th Armoured Division (May, 1953).

Far East Land Forces.—Major-General L. E. C. M. Perowne, C.B.E., A.M.I.E.E., appointed G.O.C., 17th Gurkha Division (1st September, 1952).

Malaya.—Major-General W. P. Oliver, C.B., O.B.E., appointed Principal Staff Officer to the High Commissioner (March, 1953).

Washington.—Colonel (temporary Brigadier) C. R. Price, C.B., C.B.E., B.A., B.Sc., appointed Chief of Staff (Major-General) to the Chairman, B.I.S.M., Washington, with the temporary rank of Major-General (1st November, 1952).

Promotions

Lieut.-Generals.—

Major-Generals to be temporary Lieut.-Generals :—H. Redman, C.B., C.B.E. (22nd October, 1952) ; Sir A. James H. Cassels, K.B.E., C.B., D.S.O. (10th December, 1952).

Major-Generals.—Temporary Major-Generals, Brigadiers, or Colonels to be Major-Generals :—R. C. Cruddas, D.S.O. (29th October, 1952) ; R. P. Harding, D.S.O. (29th November, 1952) ; J. H. O. Wilsey, C.B.E., D.S.O. (29th November, 1952) ; E. H. W. Cobb, C.B.E. (12th December, 1952) ; P. Le M. S. Stonhouse-Gostling (12th December, 1952).

Brigadiers or Colonels to be temporary Major-Generals :—P. St. Clair-Ford, D.S.O. (29th August, 1952) ; J. Scott-Elliot, C.B.E., D.S.O. (1st November, 1952) ; C. R. Price, C.B., C.B.E., B.A., B.Sc. (1st November, 1952) ; G. S. Thompson, D.S.O., M.B.E. (15th December, 1952) ; R. A. Bramwell-Davis, D.S.O. (12th January, 1953) ; J. G. Cowley, C.B.E., A.M. (22nd January, 1953).

Retirements

The following General Officers have retired :—Major-General L. D. Grand, C.B., C.I.E., C.B.E. (29th October, 1952) ; Major-General R. K. Arbuthnott, C.B., C.B.E., D.S.O., M.C. (29th November, 1952) ; Major-General J. M. S. Pasley, C.B., C.B.E., M.V.O. (29th November, 1952) ; Major-General N. W. Duncan, C.B., C.B.E., D.S.O. (12th December, 1952) ; Major-General H. A. Hounsell, C.B., C.B.E. (12th December, 1952).

Organization of Land Forces for the Defence of the United Kingdom

The War Office announced on 29th November that General Sir Miles Dempsey reverted to the Retired List on 15th November, having completed the preparatory work in connection with the organization of the land forces for the defence of the United Kingdom, for which purpose he was recalled in 1950.

General Sir Miles Dempsey will continue to be C.-in-C., United Kingdom Land Forces (Designate) and to act as Chairman of the Commanders-in-Chief (U.K.) Committee.

Three-Power Military Conferences

Senior staff officers from the United Kingdom, Canada, and the United States met in Washington on 19th October for a week of discussions. The purpose of the conference was to discuss matters connected with increased co-operation between the three countries, with particular emphasis on the attainment of greater economy in the use of combined resources. The United Kingdom was represented by Lieut.-General Sir John F. Whiteley, Deputy Chief of the Imperial General Staff, and Major-General G. P. Walsh, Controller of Supplies, Ministry of Supply ; Lieut.-General G. G. Simonds, Chief of the General Staff of the Canadian Army, represented Canada ; and the United States representatives included General J. Lawton Collins, U.S. Army Chief of Staff, General John E. Hull, Vice Chief of Staff, Lieut.-General Maxwell D. Taylor, Deputy Chief of Staff for Operations and Administration, and Lieut.-General Lyman L. Lemnitzer, Deputy Chief of Staff for Plans and Research.

An infantry conference, in which senior officers of the United Kingdom, Canada, and the United States took part, was held at Quebec early in November. The object of the conference was to review current development of equipment, to arrange standardization trials where developments are sufficiently advanced, and to interchange information regarding weapons and equipment. The conference was opened by Lieut.-General G. G. Simonds, the Canadian Army Chief of Staff, and the British delegation was headed by Major-General F. R. G. Mathews, Director of Infantry.

Brevet Promotion to Lieut.-Colonel

The names of 44 officers who have been promoted to the rank of Brevet Lieut.-Colonel with effect from 1st July, 1952, were published on 9th January in the Supplement to *The London Gazette* of 6th January.

Army Recruiting

The Regular Army recruiting statistics for December show that the total number of enlistments from civil life during the month were 2,296 men and 108 boys compared with 3,516 and 183 in October and 3,408 and 125 in November. The figures for re-enlistments were 6 from Short Service (October, 9; November, 13) and 435 from National Service (October, 755; November, 586).

New Terms of Service for Army Boys

The War Office has announced that the terms of service for boys enlisting in the Regular Army have, in some cases, been shortened. Under the old regulations, an army apprentice or regimental boy signed on for service up to the age of 18, and then for 12 years with the Colours, or for eight years with the Colours and four years on the Reserve. The engagement of 12 years with the Colours has now been abolished. Army apprentices, apprentice chefs, and regimental boys in the R.A.S.C. and R.A.O.C., because of the extent of their training, will continue to serve an ' eight and four ' engagement from the age of 18. Other regimental boys, however, will in future serve only six years with the Colours and three on the Reserve after reaching the age of 18. After completing their first engagement, all boys may continue to serve for up to 22 years reckonable service, when they will qualify for a pension. After that, they may be allowed to continue in the Army up to the age of 55.

War Memorial

The Royal Fusiliers (City of London Regiment)

A new Memorial East window in the Regimental Memorial Chapel of The Royal Fusiliers (City of London Regiment) in St. Sepulchre's Church, Holborn Viaduct, was dedicated by Canon V. J. Pike, Chaplain-General to the Forces, on 9th November. The Lord Mayor of London, detachments from Territorial and affiliated units, boys from the Regiment's unit of the Army Cadet Force, and a large number of old comrades of the Regimental Association were present.

Miscellaneous

Tour of the Quartermaster-General.—General Sir Ouvry L. Roberts, Quartermaster-General to the Forces, left London by air on 27th November to visit troops in Singapore, Hong Kong, and Korea. He returned to England on 18th December.

2nd Battalion, Coldstream Guards.—The 2nd Battalion, Coldstream Guards, left London for Germany on 24th November. Prior to entraining at Fenchurch Street Station, the battalion, with permission from the Lord Mayor of London, marched through the City of London where it exercised the privilege of doing so with Colours flying, drums beating, and bayonets fixed.

Berlin Garrison.—The 1st Battalion, The East Yorkshire Regiment, left Berlin for England on 2nd December. Their place in Berlin has been taken by the 1st Battalion, The Royal Scots Fusiliers.

Presentation to The Middlesex Regiment (Duke of Cambridge's Own).—On 19th December, on Horse Guards Parade, the 1st Battalion, The Middlesex Regiment (Duke of Cambridge's Own) received a presentation of 20 inscribed silver bugles from the people of Middlesex. The bugles were presented by Lord Latham, Lord Lieutenant of Middlesex. The battalion served in Korea from August, 1950, until May, 1951, and arrived in England from Hong Kong on 30th November.

DOMINIONS AND COLONIES

CANADA

Appointments.—Brigadier K. A. Hunter, O.B.E., C.D., has been appointed Director-General of Medical Services.

Brigadier A. F. B. Knight, O.B.E., C.D., has been appointed Vice Adjutant-General.

Brigadier F. A. Clift, D.S.O., E.D., has been appointed Commander, 25th Canadian Infantry Brigade Replacement Group.

Brigadier J. W. Bishop, O.B.E., C.D., has been appointed Commander, Canadian Army Staff and Canadian Military Attaché in Washington.

CHIEF OF GENERAL STAFF'S CONFERENCE.—Eighteen senior officers of the Canadian Army met in Ottawa on 4th December for the ninth conference between the Chief of the General Staff, Lieut.-General G. G. Simonds, and the General Officers Commanding, Army Commands.

CANADIAN ARMY STAFF COLLEGE.—The 1953 course at the Canadian Army Staff College includes officers from Britain, Australia, Pakistan, and India, and N.A.T.O. sponsored officers from Belgium, France, Italy, Norway, and Turkey.

APPRENTICE SOLDIERS.—The enrolment and training of a limited number of apprentice soldiers who have reached 16 years of age commenced on 2nd January. These boys are being trained at the various corps schools of the Canadian Army. About 200 have been chosen for the first courses. They sign on for seven years, but at the end of five years will have the opportunity of taking their release if they so desire. Courses will average about two years in length. On enrolment a soldier apprentice draws half the pay of a private recruit, and on reaching the age of 17 will draw normal rates of pay. When qualified he will draw trade pay.

The first apprentice soldiers are being trained in trades found in the Royal Canadian Engineers, the Royal Canadian Corps of Signals, the Royal Canadian Army Service Corps, and the Royal Canadian Electrical and Mechanical Engineers. French speaking students are being trained in a special wing at the Canadian Army Training School at Valcartier, Quebec.

MILITARY EQUIPMENT SENT TO EUROPE.—A mutual aid shipment including mortars, ammunition, and stores for the French Army was dispatched from the port of Montreal at the end of October.

AUSTRALIA

NEW YEAR HONOURS.—The following award was included in the New Year Honours List :—

C.B.—Major-General F. K. Norris, C.B.E., D.S.O., E.D.

APPOINTMENTS.—Lieut.-General Sir Horace Robertson, K.B.E., D.S.O., has been appointed G.O.C., Southern Command, in succession to Lieut.-General H. Wells, C.B.E., D.S.O., who has become C.-in-C., British Commonwealth Forces in Korea.

Colonel C. N. Peters is to become Director of Administration and Planning at Army Headquarters, Melbourne.

Mr. W. R. Blunden has been appointed Scientific Advisor to the Military Board. This is the first occasion on which a scientific advisor has been so appointed.

PROMOTIONS.—Lieut.-Colonel E. J. Bowe, Royal Australian Nursing Corps, and Lieut.-Colonel K. Best, Women's Royal Australian Army Corps, have been promoted to the rank of Honorary Colonel. Colonel Bowe is Matron-in-Chief of the Australian Military Forces, and Colonel Best is Director of the W.R.A.A.C.

ARMY STRENGTH.—The Minister for the Army, Mr. Joseph Francis, has announced that the strength of the Australian Army will be about 125,000 (more than 25,000 Regular Army and 100,000 part-time Citizen Military Force) by the end of 1953.

C.M.F. ROYAL ARMY NURSING CORPS COMPANIES.—It was announced in November by the Minister for the Army that, for the first time, Australian Army Citizen Military Force companies of the Royal Australian Nursing Corps would be raised before the end of 1952. These companies, raised in all States, comprise the first of the total of 3,500 women, including the Women's Royal Australian Army Corps, to be enlisted for service

as part of Australia's peace-time army organization. Each company consists of three nursing sisters and 69 nursing orderlies, with a small Regular Army cadre for administrative and training duties. They share training depôts with Royal Australian Army Medical Corps units, principally field ambulances, for home training and will staff camp hospitals during C.M.F. camps for practical experience.

NEW ZEALAND

Army Strength

When addressing senior officers at the opening of military exercises recently, Major-General W. G. Gentry, Chief of the General Staff, said that the Army should number about 25,000 officers and men on 1st April. More than 10,000 would be over 21 years of age, and in the event of a global war there would be about 14,000, including volunteers, available for service. (Under the present law men of 18 years of age are called up for training, but only men over 21 are liable for service overseas.)

FOREIGN

BELGIUM

Army Strength

The Belgian Government has introduced a Bill to fix the strength of the Army at 180,000 for 1953. On 1st January, 1952, the Belgian Army numbered about 110,000 men.

GREECE

Military Delegation visits Yugoslavia

Eight Greek officers paid a six-day visit to Yugoslavia as guests of the Yugoslav Army at the end of November. A joint *communiqué* on their departure for Athens on 30th November said that their visit had served to strengthen friendly relations between their two countries and to create a basis for their further development. Colonel-General Popovich, the Yugoslav Chief of Staff, Colonel-General Dapchevich, his deputy, and other senior officers were on the platform to see the Greek officers off.

ISRAEL

New Chief of Army General Staff

It was officially announced in Jerusalem on 3rd December that General Yigdal Yadin, Chief of the General Staff of the Israeli Army, had resigned and had been succeeded by his deputy, General Mordecai Makleff.

UNITED STATES

Creation of an Army Air Unit

General J. Lawton Collins, U.S. Army Chief of Staff, announced on 15th November the terms of a " memorandum of understanding " with the Air Force under which the Army would build up its own specialized aviation unit to a total strength of about 2,200 helicopters and light planes (up to 5,000 lb.). He emphasized that the Army was not duplicating the functions of the Air Force and that there was no question of creating an Army Air Corps ; the aircraft and men would be an integral part of the Infantry, their function being to provide transport for soldiers and equipment " within a combat zone," to supplement the conventional truck-type transport, and to make it possible to take men and weapons into otherwise inaccessible places at the battlefront.

General Collins said that, of the 2,200 operational aircraft for Army aviation, about 1,100 would be cargo-type helicopters and 1,000 light fixed-wing aircraft. The Army had at present about 1,800 aircraft, but many of these were obsolete light liaison planes which were being replaced.

AIR NOTES

GREAT BRITAIN

H.M. The Queen

The Duke of Edinburgh has been learning to fly at White Waltham on a D.H. Chipmunk trainer. He started his training on 12th November, 1952, and made a short solo flight on 20th December. His instructor is Flight Lieutenant C. Ramsay Gordon.

On 1st November, Queen Elizabeth the Queen Mother, accompanied by Mr. Winston Churchill, paid a visit at Biggin Hill to Nos. 600 and 615 Royal Auxiliary Air Force Squadrons.

On 10th November, at Finsbury, Queen Elizabeth the Queen Mother, presented the Hawker Siddeley Trophy to No. 2600 (City of London) Light Anti-Aircraft Squadron, R.Aux.A.F. Regiment. Her Majesty is Honorary Air Commodore of this Squadron.

The Princess Royal, Air Chief Commandant, Princess Mary's Royal Air Force Nursing Service, has been appointed to be a Member of the Royal Red Cross, First Class.

During her recent tour of Malaya, the Duchess of Kent paid an informal visit to the Royal Air Force Station, Changi.

The Rev. John Ruskin Appleyard has been appointed Honorary Chaplain to the Queen, with effect from 1st October, 1952.

The Earl Marshal's Office has announced that the Coronation fly past will take place on 2nd June, following the Coronation ceremony and before The Queen's Commonwealth broadcast. There will be a second fly past on The Queen's birthday on 11th July, and the R.A.F. Review will take place on 15th July at Odiham.

New Year Honours

The following were included in the New Year Honours List :—

G.C.B.—Air Chief Marshal Sir William F. Dickson, K.C.B., K.B.E., D.S.O., A.F.C.

K.C.B.—Air Marshal Sir Basil E. Embry, K.B.E., C.B., D.S.O., D.F.C., A.F.C.

C.B.—Air Vice-Marshal E. C. Farman, C.B.E.; acting Air Vice-Marshal H. P. Fraser, C.B.E., A.F.C.; Air Commodore W. J. Crisham, C.B.E.; Air Commodore J. H. Harris, C.B.E.; Air Commodore W. H. Kyle, C.B.E., D.S.O., D.F.C., A.D.C.

K.B.E.—Acting Air Marshal A. C. Sanderson, C.B., C.B.E., D.F.C.; Air Vice-Marshal C. A. Bouchier, C.B., C.B.E., D.F.C.; Air Vice-Marshal D. A. Boyle, C.B., C.B.E., A.F.C.

Appointments

Air Ministry.—Air Vice-Marshal R. B. Jordan, C.B., D.F.C., appointed Director-General of Organization, Air Ministry (16th February, 1953).

Flying Training Command.—Air Vice-Marshal H. H. Brookes, C.B.E., D.F.C., appointed Air Officer Commanding No. 25 Group (7th February, 1953).

Technical Training Command.—Air Commodore A. F. Hutton, C.B.E., D.F.C., appointed Senior Air Staff Officer, Technical Training Command, with the acting rank of Air Vice-Marshal (15th December, 1952).

Maintenance Command.—Air Vice-Marshal L. G. Harvey, C.B., appointed Air Officer Commanding-in-Chief, Maintenance Command (December, 1952).

Air Vice-Marshal H. G. White, C.B., C.B.E., appointed Officer in charge of Administration (5th February, 1953).

Air Vice-Marshal G. Combe, C.B., appointed Air Officer Commanding, No. 41 Group (5th February, 1953).

HOME COMMAND.—Air Vice-Marshal H. T. Lydford, C.B., C.B.E., A.F.C., appointed Air Officer Commanding-in-Chief, Home Command, with the acting rank of Air Marshal (1st October, 1952).

PROMOTIONS

The following were included in the half-yearly promotions, to date 1st January, 1953 :—

Air Vice-Marshal (acting Air Marshal) to be Air Marshal.—R. O. Jones, C.B., A.F.C., B.A., M.I.Mech.E., F.R.Ae.S.

Air Commodores (acting Air Vice-Marshals) to be Air Vice-Marshals.—S. O. Bufton, C.B., D.F.C.; L. W. Cannon, C.B., C.B.E.; J. H. Edwardes-Jones, C.B.E.; H. P. Fraser, C.B.E., A.F.C.; W. H. Merton, O.B.E.

Air Commodores to be Air Vice-Marshals.—H. H. Brookes, C.B.E., D.F.C.; B. E. Essex, C.B., C.B.E.

Air Commodore (Honorary) H.R.H. El Amir Abdul'ilah, G.C.M.G., G.C.V.O., Regent of Iraq, has been promoted to the rank of Air Vice-Marshal (Honorary) (30th September, 1952).

RETIREMENTS

Air Vice-Marshal W. E. Staton, C.B., D.S.O., M.C., D.F.C., is placed on the Retired List at his own request in order to facilitate the promotion of younger officers (12th November, 1952).

Air Chief Marshal Sir Leslie N. Hollinghurst, G.B.E., K.C.B., D.F.C. (27th December, 1952).

OPERATIONS

SUPPLIES DROPPED IN MALAYA.—In the four years of the campaign against the terrorists in Malaya, the amount of supplies dropped by parachute by squadrons of the Far East Transport Wing to British, Gurkha, and Malay army units patrolling the jungles, and to police squads, has reached a total of 11,000,000 lbs.

For the first three years, supply dropping was carried out by Dakota aircraft, but in the middle of 1951 these were replaced by Valettas.

CASUALTY AIR LIFT TO FIJI.—The first air lift of Fijian casualties sustained during anti-terrorist operations in Malaya started at the end of November, 1952. It was carried out by a Hastings of Transport Command.

FLIGHTS

GOODWILL AND TRAINING TOUR OF LATIN AMERICA

On 5th December, four Canberra jet aircraft of No. 12 Squadron landed in this Country after a seven-week tour of nearly 24,000 miles during which they visited South and Central America and the Colonial territories in the Caribbean area. They set up speed records on almost every flight and made the first crossing of the South Atlantic by jet aircraft. The flight was made under the command of Air Vice-Marshal D. A. Boyle, Air Officer Commanding, No. 1 Group, Bomber Command.

Training

Exercise over Greenland Sea

Four Shackleton aircraft of No. 120 Squadron, Coastal Command, co-operated with ships of the Home Fleet engaged on a training cruise in the Greenland Sea. They undertook anti-submarine patrols and gave close support to ships of the Home Fleet. The crews of the aircraft were issued with standard R.A.F. cold weather flying and survival equipment.

Materiel

Sabre Aircraft for the Royal Air Force.—Under arrangements made between the authorities of the United Kingdom, Canada, and the United States, the R.A.F. is to receive between 300 and 400 F-86E Sabre aircraft for service with the 2nd Tactical Air Force in Germany. The airframes are being supplied and built in Canada, and the aircraft assembled there under mutual aid arrangements. Delivery of the aircraft to the R.A.F. has begun and is expected to be completed during 1953.

Scimitar Wing Bomber.—The prototype of this bomber—HP80—which has been ordered for the Royal Air Force, made its maiden flight at Boscombe Down in December, 1952. This aircraft has been designed to operate at near-sonic speeds at very great heights over long distances. It is powered by four Armstrong Siddeley Sapphire turbojet engines buried in the wing. The scimitar wing design is claimed to reduce drag at high speed and great heights and to give good control qualities and stability throughout the speed and altitude range, including approach and landing speeds near the ground. An unusual feature is the fitting of leading-edge flaps, which are designed to improve control near the stalling speed. This aircraft has been named the "Victor."

Hawker Hunter Fighter.—The Hawker Hunter fighter is now being powered with Armstrong Siddeley Sapphire jet engines, and one aircraft so fitted has already made its first flight.

Blackburn Transport.—This aircraft has been named the "Beverley."

Miscellaneous

Last Parade of Retiring C.A.S.—Marshal of the Royal Air Force Sir John Slessor took his last parade as Chief of the Air Staff when he reviewed the graduation of the 57th entry of flight cadets at Cranwell on 17th December, 1952.

Gordon Shephard Memorial Prize Essay Competition, 1951–52.—The results of this competition were as follows:—

1st Prize (50 guineas)	...	Wing Commander C. N. Foxley-Norris, D.S.O.
2nd Prize (30 guineas)	...	Flight Lieutenant G. H. Burgess.
3rd Prize (20 guineas)	...	Flight Lieutenant J. R. Every.
4th Prize (10 guineas)	...	Squadron Leader F. A. Coleman, B.A.

Forty-two entries were received and the standard was high.

Central African Survey.—No. 82 (Photographic Reconnaissance) Squadron, equipped with Lancasters, has now returned to Britain after carrying out a six-year photographic survey of 1,581,000 square miles of British East, Central, and West Africa, and the territories of Basutoland, Bechuanaland, and Swaziland.

Peaked Caps for Airmen.—Peaked caps for airmen were introduced on 1st January, 1953. The new cap will be worn for ceremonial and walking-out purposes. On the same date officers ceased wearing field service caps, which have been replaced by berets for wear with No. 2 dress.

ACCIDENTS BRANCH RETIREMENT.—On 31st December, 1952, Air Commodore Sir Vernon Brown, C.B., O.B.E., M.A., F.R.Ae.S., retired from his post as Chief Inspector of Accidents at the Ministry of Civil Aviation.

PHYSICAL TRAINING INSTRUCTORS AS MOUNTAINEERS.—Selected non-commissioned officer physical training instructors are to be trained as mountaineers to qualify them as full-time members and instructors of the Mountain Rescue Units in the United Kingdom.

DOMINIONS AND COLONIES

CANADA

APPOINTMENTS.—Air-Vice-Marshal C. A. Sleman, C.B., C.B.E., C.D., became Chief of Air Staff of the R.C.A.F. on 31st January, 1953. He succeeded Air Vice-Marshal W. A. Curtis, C.B., C.B.E., D.S.C., E.D., who had been C.A.S. since 1947.

Air-Vice-Marshal J. G. Kerr, C.B.E., A.F.C., C.D., has been appointed Air Officer Commanding, Training Command, with Headquarters at Trenton, Ontario.

Air Commodore W. A. Orr, C.B.E., C.D., has been appointed Commander of No. 12 Air Defence Group.

Air Commodores C. L. Annis, O.B.E., and F. S. Carpenter, A.F.C., C.D., are attending the 1953 course at the Imperial Defence College.

VISIT OF FIELD-MARSHAL LORD ALEXANDER.—Field-Marshal Lord Alexander, Minister of Defence, visited No. 1 Fighter Wing, R.C.A.F., stationed at North Luffenham on 14th November. This wing, which is composed of Nos. 410 (F), 439 (F), and 441 (F) Squadrons and forms part of No. 12 Group, Fighter Command, is equipped with Sabre aircraft.

JET SQUADRONS FOR N.A.T.O.—Three jet fighter squadrons equipped with F.86 Sabre aircraft comprising No. 2 Fighter Wing of the R.C.A.F. were formally transferred to the operational control of N.A.T.O. at a ceremony held recently at Gros Tenquin, near Metz. The Sabres had been flown over from Canada by the Wing.

COMET AIRCRAFT FOR R.C.A.F.—De Havillands are now delivering Comet jet transport aircraft to the R.C.A.F. Sixty Canadian airmen have visited England to obtain experience of this type of aircraft.

AUSTRALIA

AIDES-DE-CAMP.—The following officers have been appointed Aides-de-Camp to Her Majesty The Queen :—Air Commodore W. L. Hely, A.F.C., Group Captain C. T. Hannah, O.B.E., and Wing Commander R. Kingsford-Smith, D.S.O., D.F.C.

AWARD OF THE STANDARD.—Her Majesty The Queen has approved the special award of a unit ceremonial flag—the Standard—to Nos. 1 and 3 R.A.A.F. Squadrons. Presentations will be made when the flags are received from England.

IMPERIAL DEFENCE COLLEGE.—Air Commodore C. D. Candy, O.B.E., is attending the 1953 course at the Imperial Defence College.

R.A.A.F. SQUADRON'S OPERATIONS.—No. 77 Squadron, R.A.A.F., equipped with Meteor jet aircraft, has flown more than 10,000 sorties against the enemy since entering the Korean War on 30th June, 1950.

TESTS AT WOOMERA.—A R.A.A.F. crew recently flew a B.29 Washington heavy bomber from England for special tests on the Long Range Weapons Establishment at Woomera.

VAMPIRE TRAINERS.—The R.A.A.F. has taken delivery of several D.H. 115 Vampire trainers. These aircraft have been built by de Havillands in Sydney.

EXCHANGE OF OFFICERS.—The Australian Air Minister has announced a scheme for two-year exchange postings between the R.A.F. and R.A.A.F. The first Australians to come to Britain will be four pilots now serving in Korea.

NEW ZEALAND

FIGHTER-GROUND ATTACK WING.—The R.N.Z.A.F. has formed a Fighter-Ground Attack Wing comprising six squadrons, of which two are Regular and four Territorial. The first of these squadrons has trained on Vampire jet aircraft and is serving in Cyprus. The Territorial squadrons are equipped with Mustang aircraft.

HARVARD TRAINERS.—Forty Harvards, at present in storage, are being modernized and will be used shortly as trainers.

AIR TRANSPORTATION OF TROOPS.—Transportation of troops to and from Korea by air has now been approved. Charter aircraft will be used.

FLYING BOATS ORDERED.—Sixteen Short Sunderland flying boats have been ordered by the R.N.Z.A.F. They will replace Catalinas which have been used for the past ten years.

CEYLON

FIRST FIGHTER SQUADRON IN 1955

Ceylon will have its first Fighter Squadron for air defence in two years' time. The training of the Royal Ceylon Air Force is being carried out at Katunayaka by R.A.F. personnel.

FOREIGN

BELGIUM

ORDER FOR BRITISH AIRCRAFT

The Belgian Air Force has placed an order with Percival Aircraft Ltd., of Luton, for "a substantial number" of Pembroke twin-engined general-purpose aircraft. This aircraft, the prototype of which made its maiden flight recently, is already in production for the Royal Air Force.

BRAZIL

PURCHASE OF JET AIRCRAFT

A preliminary contract for the purchase by Brazil of 70 Gloster Meteor jet aircraft, including trainers and fighters, and also parts and accessories, was signed on 28th October. The sale was negotiated by representatives of Hawker Siddeley, and the contract provides for a team of experts to go to Brazil to assemble the aircraft and give instruction in maintenance. Brazilian pilots and mechanics will also come to Britain for training. The basis of the deal will be an exchange of cotton. Representatives of the Company state that while the agreed price is around £5 million, the question of Brazil's cotton price will be an adjusting factor. British jet aircraft are the topic of the day in the Brazilian Press.

ETHIOPIA

VISIT TO ADEN BY I.E.A.F.

Fourteen aircraft of the Imperial Ethiopian Air Force recently paid a five-day goodwill visit to a Royal Air Force Brigand light bomber squadron at R.A.F. Station, Khormaksar, Aden, returning a visit paid by the R.A.F. squadron to Addis Ababa in June.

The visiting aircraft included four British Fairey Firefly fighters and eight Swedish Saab (A17) dive bombers, flown by Ethiopian pilots.

FRANCE

New Jet Fighter

The Mystère 4 prototype, which was built in eight months by a team of 200 workers supervised by 60 engineers, on 4th November flew at 687.5 m.p.h. at 60 feet off the ground. Its greater sweep-back and thinner wing section should enable it to better the performance of the Mystère 2, which recently flew at supersonic speed (first reports incorrectly said that it was the Mark 4 that made the supersonic flight). Without external tankage the Mystère 4 can fly for one hour and forty minutes. Its armament comprises two 30 mm. guns (firing 1,200 rounds per minute) and an unspecified number of rocket projectiles. The prototype is powered by a Rolls-Royce Tay.

MIDDLE EAST

Export of British Fighters

Gloster Meteor and de Havilland Vampire fighters may now be exported in limited numbers to Syria, Egypt, Iraq, Lebanon, and Israel. These countries are free to negotiate with manufacturers. The Gloster Aircraft Company has received a small order for Meteors from Syria and some have already been delivered. The Hawker Siddeley Group, to which Glosters belong, has a regional representative in the Middle East; he has had discussions with the countries to which Meteors may now be supplied. The de Havilland Aircraft Company has not supplied aircraft to any of these countries recently, though several Vampires were delivered to Egypt up to August, 1950. Contracts with Egypt dating from that period have remained unfulfilled.

RUSSIA

Strength in Korea

Mr. Thomas K. Finletter, Secretary of the United States Air Force, said recently after his return from a round-the-world inspection flight that the Red Air Forces had just about doubled their strength in Manchuria during the past 12 months and now had approximately 2,500 aircraft, of which at least 1,300 were jet fighters, mostly MIG-15s. When the Reds made their first bid for control of MIG Alley they had about 1,300 planes, of which 700 were jet fighters. Total Russian investment in both the Chinese and North Korean Air Forces during the last year has been about 4,400 planes, of which 4,000 have gone to the Chinese. Some 2,000 new jet aircraft had been shipped to Manchuria during the past years to replace combat and operational losses and bring the Communist air strength to its current level. In addition to the numerical increase of Communist aircraft in Manchuria, Mr. Finletter also cited the recent transfer of a sizeable quantity of twin-jet bombers to the Russian Far East Air Force in Siberia where they would be readily available to the Chinese. "These aircraft have the range to penetrate behind our present lines," Mr. Finletter said. "It is distinctly an offensive weapon. Whether these fast jet bombers have actually been turned over to the Chinese Air Force is uncertain. Possibly, as was done earlier with the MIGs, the intention of the Communists is to train the Chinese airmen in their use before making the actual transfer. The fact remains that a new and potentially dangerous factor has now intruded on the other side of the Korean equation."

He also said that the Korean War has taken a heavy toll of Russian aircraft production, even though the U.S.S.R. is not directly involved in the war. He added that the Red forces have lost a considerable number of MIG-15 jets—458 destroyed and

another 643 damaged since the war started. The United States Air Force Secretary also hinted that the Reds may put a new Russian-designed twin-jet bomber, similar to the English Electric Canberra, into the Korean battle, although the aircraft has not yet been given to the Chinese Communists.

SWITZERLAND

Civil Defence

At a recent Press conference in Berne the foundation was reported of a Swiss Society for Civil Defence by the Swiss Air Raid Precautions Officers' Society in co-operation with the Head of the Federal Military Department, President Kobelt, and the Air Raid Precautions Department.

At the end of the 1939–45 War, air raid precautions were abolished in Switzerland, and the Swiss Air Raid Precaution Society was dissolved. The decision to re-form the Society was taken as a result of the Swiss Government's proposal to construct air raid shelters in existing houses.

The Society for Civil Defence will be responsible for the protection of the civilian population in the event of war or catastrophe, and its main task will be to make clear to the population the protective measures they themselves can take in peace and war.

It is hoped that the first sections of the new Society will be founded in Zurich, Basle, Berne, Lucerne, and St. Gall at the beginning of 1953.

It was announced at the Press conference that the basis for the preparation of civil air defence measures would be laid by a Federal air raid precaution law.

UNITED STATES

More Canberras ordered for the U.S.A.F.—The Glenn L. Martin Co. has received a second production order for B-57 night intruder bombers from the Air Force, confirmation that the Air Force is disregarding the controversial staff study of the Aircraft Production Board. The B-57 U.S.A.F. version of the English Electric Canberra was one of the aircraft the staff study, now regarded as being defunct, recommended for cutback in order to concentrate on more advanced types.

American Jet Bomber Production.—The Boeing Airplane Co. has built more than 300 B-47 jet bombers, it was disclosed officially by Under-Secretary of the Air Force, Mr. Roswell L. Gilpatric, who had previously announced that the production rate has now reached one a day. Mr. Gilpatric also cited favourable production figures for the B-47, as compared to the 1939–45 War Boeing B-29. For the first production aircraft, the number of man hours per airframe pound was 16.5 for the B-29 and 14.3 for the B-47. On the 300th aircraft, the B-29 figure was 1.7 man hours per pound compared with 1.4 for the B-47.

U.S. Experiment with H-Bomb.—A statement by the United States Atomic Energy Commission, on 15th November, announced the end of a series of atomic weapon tests at Eniwetok Atoll in the Pacific, including " experiments contributing to the thermo-nuclear weapons research," which is taken to refer to the hydrogen bomb. The H-bomb is at least 1,000 times as devastating as the atom bomb.

S-55 with Turbines.—A Sikorsky S-55 is being adapted for the installation of three Boeing 210 h.p. gas turbines. The gear transmission, capable of operating at 45,000 r.p.m., is now in the design stage. The transmission will be so geared that one engine might be

cut off during the normal cruise range of speeds and the remaining two would operate at full speed and provide the normal cruising power, which is about two-thirds maximum power. The engines to be installed are the Boeing 502-8, known by the U.S.A.F. as the XT 50-BO-1.

THUNDERSTREAK PERFORMANCE.—The Republic F-84F Thunderstreak is "vastly superior" to the Russian MIG-15, according to Mr. Roy T. Hurley, Chairman and President of Curtiss-Wright, whose Wright Aeronautical Division builds the F-84F's powerplant, the J65 Sapphire.

EXPERIENCE STILL COUNTS.—Up to the end of 1952, there are about 18 U.S.A.F. pilots who qualify for the title of jet ace, having destroyed five or more MIG-15s. Their average age is around 30, and not the 20 years which general opinion might indicate as most suitable for a jet pilot. The precise average is about 29 years, and of the 18 pilots all but four are married men (with a total of 23 children). Anything less like the popular idea of space-suited supermen than this group of approaching middle-age fathers would be hard to imagine, but withal they appear to have coped quite well with the stresses and strains of 600 m.p.h. combat at heights of up to 40,000 feet, and their reactions still seem lively enough to enable them to give a good account of themselves at closing speeds of up to 1,200 m.p.h. While at least seven of the pilots had air victories in the 1939–45 War to their credit, it is of interest to note that two were infantrymen at that time, one a radio operator, and all but two of the remainder, who did not serve in the war, were pilots.

REVIEWS OF BOOKS

GENERAL

Brassey's Annual. Edited by Rear-Admiral H. G. Thursfield. (William Clowes & Sons.) 63s.

The set-up of *Brassey's Annual*, now in its 63rd year of publication, remains the same as in 1951 and is again divided into 31 chapters, though this year there are 30 fewer pages. The cost of producing a book, however, shows no sign of decreasing, and the sale price has risen by 13 shillings to three guineas.

In the general section some of the chapters are a continuation, often by the same authors, of the same subject that they wrote about in the previous volume. In "The Making of an Officer" Admiral Thursfield examines the system by which the future officer is obtained, and pleads for the "sweeping away of the equalitarian theory from this sphere and placing the process of making an officer, in any of the armed forces, on a firm basis of common sense and the recognition of realities." Mr. Jules Menken, in "War by Proxy," continues his masterly analysis of the Communist menace.

In the naval section the growth of the Reserve Fleet organization, from the days when ships were laid up "in ordinary" to the present day, is ably portrayed. The review is in two parts, the dividing line being the year 1939. The development of the British destroyer, from its earliest days to the new *Daring* class, is equally interesting and informative.

The army section contains a further article on tank warfare, this time by Major-General J. F. C. Fuller. Last year the situation in Korea was described from several points of view; this year the emphasis is more on the operations in Malaya. The implementation of the new Home Guard Act is explained, and the article shows how this part-time, voluntary, and unpaid force differs from that established in 1940.

The air force section includes chapters on "The Task of the Royal Air Force," "Training in 1951," "Aircraft Development," and "The Future Influence of Air Power."

The reference section brings the reader up to date with regard to the provisions which have been made in the financial year, 1952–3, for all three Services.

The book is not entirely free from minor errors. On page 1, it is stated that "the Royal Air Force came into existence only in 1917." Although the decision to form a separate Air Service was taken late in 1917, the formal implementation did not take effect until 1st April, 1918. The obituary notice of Admiral of the Fleet Sir Reginald Tyrwhitt contains a common half-truth. In the 1914–18 War his substantive rank was that of captain, though as a commodore, 1st Class, he wore the distinction lace of a rear-admiral on his sleeve. He was made an acting rear-admiral on 8th January, 1918, but he did not attain substantive flag rank until 2nd December, 1919. Vice-Admiral Sir William Andrewes is shown, on page 21, as "Andrews"; and a few ships' names are also incorrectly spelt. These, however, are merely printer's errors. The illustrations and the index are all that they should be.

Apart from the foregoing minor blemishes, *Brassey's Annual* continues to maintain the high standard which it has always achieved, either, as in the past, as a purely Naval Annual, or, for the last three years, as a Year Book for all three armed forces.

Crisis in the Desert, May–July, 1942. By J. A. I. Agar-Hamilton and L. C. F. Turner. (Oxford University Press) 42s.

This is the first volume to be published by the Union War Histories Section of the Office of the Prime Minister of the Union of South Africa and in it we get the first official account to appear of the tragic events which occurred in the Western Desert during the Summer of 1942. Both South African divisions took part in this fighting and everyone

who saw them could not but be impressed by the magnificent personnel they contained, and though defeat and disaster was then their lot, these very misfortunes carried grave political and military lessons for us all.

There can be little doubt that the authors have taken the greatest care to establish the true facts and to record in considerable detail the various actions in which the South African forces were engaged. These include the operations carried out by the 1st S.A. Division at the northern end of the Gazala line up to the 15th June ; the defence of Tobruk by the 2nd S.A. Division and its eventual capitulation on the 21st June, and the retreat to and defence of the El Alamein box by the 1st S.A. Division in July, when they foiled Rommel's immediate bid for Cairo.

Such a story cannot, however, be told without reference to the formations in which they served, or which served beside them, and it is the presentation of events which took place at both the Army and Corps Headquarters which is of especial interest to us, since the commanders and staffs concerned were all of United Kingdom origin. The South African historians make no direct criticism of either leaders or leadership, but they quote extensively from contemporary records. We may well find that our own official historians will confirm the views expressed in this book.

In retrospect the story is an incredible one. We had correctly guessed the direction of Rommel's *schwerpunkt*, yet elected to meet it in penny packets and so were defeated in detail. Then, unable to find any counter to the German tactics, and with our armour beaten, the Eighth Army was forced into a withdrawal which could not be halted till the position at El Alamein was reached.

It is fascinating to read the enemy's side of all these battles. Rommel deserved his success but, by overdriving his troops until such a crack formation as ' 90 Light ' panicked and broke, found that final victory eluded him.

This very well written book is excellently produced with many finely drawn maps. It should be read by all and studied carefully by soldiers.

NAVAL

Jane's Fighting Ships, 1952–53. Edited by Raymond V. B. Blackman, A.M.I.N.A., A.I.Mar.E. (Sampson Low.) 84s.

The annual arrival of *Jane's* is always an event of importance in the world of naval literature. It has a tradition of authority and accuracy that makes it an invaluable book of reference to those who study the development and the new thought that animates the navies of the world.

It is probable that the British reader will turn first of all to those pages which are devoted to his own navy, and from them he can fairly deduce the gradually evolving pattern of the post-war fleet. H.M.S. *Eagle*, the largest carrier ever built in this Country, is now in commission—a fine photograph of her is used as this year's frontispiece—and her sister ship, the *Ark Royal*, is now fitting out. Work is also proceeding on the *Hermes* class, although slowly. There is a modest amount of new building of frigates, and a fairly considerable conversion programme in hand of destroyers to frigates. Also noticeable is the large increase in the programme of minesweepers, of which some 65 are under construction.

These activities point the way towards the new thinking which governs the present naval development in this Country. Naval aviation, anti-submarine, and minesweeping are the three main factors which affect present-day building, showing the importance with which these aspects of naval warfare in any future conflict are viewed.

From Great Britain, the inquiring reader is likely to turn to the United States, to refresh himself with a review of the staggering naval strength deployed by that country. The total number of ships is 4,800, and forms by far the largest individual navy in the

world. It is too early yet for *Jane's* to give us any idea of what the giant carrier *Forrestal* will look like when she is completed, but from the brief details given she should prove to be a most interesting ship.

Apart from a cautionary note, the details of the new Russian battleships, so persistently reported in former issues, have disappeared from this year's *Jane's*. They were probably the new *Sverdlov* class cruisers, mistakenly described by Scandinavian sources. *Jane's*, unfortunately, is extremely reticent about these new cruisers, of which some five or six are variously reported to have been built. It is to be hoped that, sooner or later, a photograph of one of them will find its way out from behind the iron curtain of Soviet naval reticence.

There is far too much of interest in this new issue to be adequately described in a review of this nature. Let it be sufficient to say that the present *Jane's* worthily upholds the tradition set by the late Fred T. Jane and that its value as a standard work of naval reference is as great to-day as ever it was.

The Naval Miscellany. Volume IV. Edited by Christopher Lloyd. (Navy Records Society.) 45s.

Many readers of the Navy Records Society's publications must have found among the most attractive those miscellaneous documents of which the first collection was issued 50 years ago. This fourth volume, appearing after an interval of 24 years, well maintains the standard of interest and value of its predecessors.

It contains nine sections, each with its own editor. The first comprises translations of some papers about the Spanish Armada—perhaps the most lavishly documented episode in naval history. Eleven papers of instructions from Philip to Medina Sidonia and others provide original material, and an account of the campaign by the anglicized Italian, Ubaldino, longer than a previously printed version from the same hand, is of some interest.

The Armada papers are followed by the journal of John Weale, who served as volunteer and later as lieutenant in Blake's fleet in the Mediterranean. 1654-56, giving a picture of life at sea at that time and by its day-to-day account filling in some gaps in the record provided by Blake's despatches.

Boscawen's letters to his wife during two cruises in squadronal command (off the Gulf of St. Lawrence in 1755 and off Brest in 1756) form the next section. They give an attractive picture of a devoted husband and open-hearted officer of commanding personality; ever eager to bring the French to battle, but at the same time intensely interested in all his home affairs and the arrangements for building his fine new house. These letters are followed by an interesting account of life in the French fleet during this same war by a Swedish officer serving in it. The picture given of conditions on board during this, for them, so unsuccessful war and of the relations of officers and men under the *ancien régime* is unexpectedly idyllic.

Then follows an account of the lamentable efforts of the future William IV to command a frigate at the age of 21 and the troubles with his experienced first lieutenant that result, provided by the full correspondence on the subject. An unpleasing episode. After that there is the log of the *Guardian*, a 44 *en flûte* taking supplies and a few convicts to the new penal settlement in New South Wales in 1789–90, commanded by Riou (" the gallant, good Riou " of Campbell's *Battle of the Baltic*) then aged about thirty. The *Guardian* struck an iceberg in dense fog 1,300 miles South-East of the Cape of Good Hope, losing her rudder and holing herself badly both aft and forward, and this is Riou's account of her weary and sometimes seemingly hopeless passage back to Capetown, deserted by half her officers and company in the boats (one of which reached safety), and with the remaining men worn out by toil at the pumps and sometimes insubordinate. If hardly comprising the brilliant seamanship attributed to it in the introduction, it was a feat of dogged perseverance and good navigation. (It is not clear who is responsible for the wildly imagina-

tive track chart on page 302, whether the editor of this section or Riou's niece who copied out his journal: in fact, as can be seen from the positions recorded, the *Guardian's* return track was at most some 500 miles to the North-eastward of the direct route.)

The Corsica correspondence of 1794, only part of which is from unpublished sources, gives information on the differences between army and navy at that time in which the protagonists were Admiral Hood, General David Dundas (later Charles Stuart), Captain Nelson, and Lieut.-Colonel Moore. It is perhaps a pity that Moore's contributions should be headed " Extract from the Diary of Sir John Moore " (the title of the book from which they have been taken) when Moore was still ten years short of knighthood. And it comes as a shock to the reader after 15 pages of this correspondence to be told in a footnote to Moore (presumably lifted direct from Nicolas from which this particular letter is taken) that he was " afterwards Lieutenant-General Sir John Moore, K.B., who fell at Corunna in 1809 "—information one would have expected either in the introduction or not at all. In his introduction to this section Admiral Godfrey says: " At Toulon we are entitled to assume that Henry Dundas . . . meant Hood to be a sort of supreme commander . . .", but he does not give any warrant for this view which seems contrary to the evidence. In the dispute about the command in Corsica, David Dundas wrote to Hood, " I suppose you have no difficulty in allowing I was co-equal with your Lordship at Toulon," and Hood never denied this. It was not until after the move to Corsica that the admiral not only asserted his rights over the 600 or so soldiers originally embarked as marines, but also laid unjustified claim to command the remaining thousand he had taken there, implying that the general and his staff were only there by his, Hood's, courtesy.

Of the two remaining sections, that on Congreve's rockets has the topical interest of rocket-fire as well as of the oft-repeated tale of interaction between the enthusiastic inventor, the good, normal officer who does his best to get full benefit from a new weapon while appreciating its tactical, and even more its strategical, limitations, and the obscurantist senior who regards all such gadgets as worthless.

St. Vincent's letters from the Channel Fleet, 1806–7, with which the volume ends, give fittingly the breath of strong sea air and sound sense still to be found in his correspondence at the age of 72.

H.M. Submarines. By Lieut.-Commander P. K. Kemp, R.N. (Herbert Jenkins.) 16s.

Commander Kemp's new book tells of the submarine from the time of man's early attempts to build underwater craft, and describes graphically the gallant deeds of British submarines in two savage and bitterly fought world wars.

The first of its eighteen chapters covers the development of the submarine from 1587, when William Bourne described how such a craft might work, to 1869 when the famous Whitehead torpedo became a British manufacture. There remained a long road to travel but the door was open to a revolutionary addition to sea power. By 1809, the submarine was a proved possibility, its principal weapon evolved, and many men were ready to risk their lives to see the two successfully combined.

Chapter II relates how, in 1901, Britain belatedly followed most other navies in adopting the new craft. Her first submarines were an outstanding success. Then, in March, 1904, she suffered her first casualty, when *A.1* was sunk in collision in the Solent. But her new Service developed rapidly and by August, 1914, with her 64 boats, she was the strongest submarine Power in the world when she entered the 1914–18 War.

The author devotes his next six chapters to the years 1914 to 1918. Starting with the submarine operations in the Heligoland Bight and Baltic, he goes on to describe how in December, 1914, Lieutenant Holbrook won the first Victoria Cross ever awarded to a submarine officer for his gallant exploit in taking *B.11* under the Dardanelles minefields. Other Victoria Crosses were won in 1915 by Commanders Boyle and Nasmith for similar

deeds. Accounts of anti-submarine measures, the work of coastal submarines, and of further operations in the Bight, follow. By November, 1918, British submarines had accounted for 54 enemy warships and 274 other vessels at a cost of 48 losses.

Chapters IX and X describe how the Submarine Service steadily developed during the inter-war years; and XI to XVIII, after telling how, in the 1939–45 War, British submarines repeated the triumphs of the earlier war, bring the post-war story up to the tragic losses of the *Truculent* and *Affray*. In the short space of 50 years British submarines have created a tradition of service worthy of gratitude and pride.

Commander Kemp's book is well written and illustrated. It contains a foreword by Admiral Sir Martin Dunbar-Nasmith, V.C., an adequate index, and a useful appendix of British submarine losses. It is in every way a worthy successor to his previous book, *Nine Vanguards*.

ARMY

The Private Papers of Douglas Haig, 1914-1919. Edited by Robert Blake. (Eyre & Spottiswoode.) 25s.

Field-Marshal Earl Haig was on the Western Front during the whole of the 1914-18 War, first as an Army Corps Commander, then as an Army Commander, and for the last three years as Commander-in-Chief of the British Army. During all this time he kept a voluminous diary and wrote numerous letters, mainly to Lady Haig. From this immense collection of papers, Mr. Blake has made a selection suitable for the present volume. In addition, he has written an admirable introduction which includes the story of Haig's early career.

It is always a debatable point whether papers originally intended to be private should be made public, and these documents are no exception. It becomes at once evident why the book could not have been published before—the reason was Haig's very frank remarks about some of his eminent contemporaries, most of whom are now dead.

An indifferent public speaker, Haig was certainly not inarticulate in papers of this nature, and his many shrewd remarks about politicians, generals, and many other distinguished persons show that he was by no means the narrow, dour soldier, interested only in his profession, as has often been assumed. At the same time it is rather startling to find him referring to Smuts as a " well educated and intelligent man."

For the military historians the main points of interest will probably be the chapters on the costly Somme and Passchendaele offensives. These chapters will without doubt revive old controversies. But the fact remains that the war was won handsomely in the end, and there is no evidence to prove that any alternative methods would have achieved this end as quickly or as decisively.

Haig was invariably most resolute in his firm refusals to allow the British Army to be tampered with or misused. All the same, there is little doubt that he underestimated the fighting qualities and the efforts made by his French Allies, particularly in the early stages of the War. A number of interesting letters and papers reveal his close friendship with King George V, who always supported him to the full. The same cannot be said of Lloyd George, with whom he was frequently at loggerheads, and who would have dearly loved to replace him, but could hardly risk doing so because of the Commander-in-Chief's many successes. These are some of the high-lights, but the whole book will repay close reading.

The History of the French First Army. By Marshal de Lattre de Tassigny. Translated by Malcolm Barnes. (Allen and Unwin.) 42s.

This is not the sort of book that will appeal to the general reader. Marshal de Lattre was a master of his craft and writes as one professional soldier for other students of the art of war. The story of the operations of the French First Army is told in narrative form

and the scope of the book is perhaps too wide, since the author not only deals with decisions taken at army group and international levels, but describes the resulting fighting in considerable detail. He could have been no easy subordinate for, convinced that " faith in France always leads to triumph," he was determined by his actions to restore the military renown of his country which had suffered such an awful eclipse in 1940. He was thus lucky in finding in the American generals under whom he served considerable tolerance for his waywardness.

His army, which began to form at Algiers in the Winter of 1943–44, was largely composed of well trained and battle-tried French colonials and this was to lead to a rather awkward situation later when, in the fighting in the Vosges, it had to absorb elements of the Resistance Forces at a time when the metropolitan depots contained no French recruits.

After conquering Elba, the army landed in the South of France as part of operation " Anvil " with the task of capturing both Marseilles and Toulon. Straight away the marshal showed that, like Rommel, he had the same flair for leadership and for seizing the fleeting opportunity with an unbalanced enemy, and both these ports were liberated in less time and at a cheaper cost than had been allowed for by the planners.

Refusing to accept the somewhat static role then allotted to him, de Lattre drove his army northwards to the Vosges and daringly burst through the Belfort Gap, racing his leading units westward till they reached Rosenau ; " another five hundred metres. A screen of trees—The Rhine ! " But the Germans rallied and cut the road in rear, so that it required a good deal of hard fighting and the " Burnhaupt manœuvre " before the situation was restored and the enemy forces compressed into the Colmar pocket.

In December, when Hitler's final offensive in the Ardennes temporarily unhinged the Allied advance and when S.H.A.E.F. contemplated the withdrawal of the armies on the eastern flank with the resulting sacrifice of the recently liberated Strasbourg, both de Gaulle and de Lattre refused to accept such a plan and the latter successfully added the defence of the city to his already overstretched resources. By the 7th February, 1945, the Colmar pocket had been liquidated after severe fighting in appalling weather conditions and the 'sacred soil of France' was free of all invaders. So, leaving his 1st Corps to hold the Rhine, de Lattre broke through the Siegfried line with the 2nd Corps and at the end of March, with practically no resources, rather recklessly crossed the Rhine " because the nation's stake made it obligatory." Then, directing the 2nd Corps southwards up the right bank of the Rhine and crossing with the 1st Corps at Strasbourg, he reunited his army in the area of Freudenstadt and headed South-eastwards against crumbling opposition.

At the end, the Stuttgart 'affair,' of which only one side is given, and the rather ridiculous events in Berlin reflect little credit on a great French military genius, but neither can they mar a magnificently conducted campaign of some nine months' duration. This is indeed a book that all soldiers should study, even though the translation scarcely does justice to the original French text, and though the diagrammatic maps included have no scales and do not show all the place names referred to.

The 43rd Wessex Division at War, 1944-45. Compiled by Major-General H. Essame. (William Clowes & Sons.) 20s.

This is an admirable example of a divisional history. The compiler writes well and easily, possesses a sense of humour, is capable of a 'classical digression,' and enjoys the advantage of having commanded one of the infantry brigades of the Division throughout the liberation campaign. And he has not erred by making this an infantry story to the exclusion of other arms and services. Rather he is at pains to show the Division as an integrated fighting machine, each brigade group and each unit of the divisional troops playing its part in and out of action.

The 43rd, a very good division which never lost its Wessex character, was commanded by a general officer of exceptional drive and ability. Its successes in France and during the advance up to and beyond the Rhine were clearly the reward of its realistic and arduous training at home : we are told that no one was called upon in Normandy to face a problem he had not studied in Kent.

The scene changes from the Kentish countryside to the Normandy *bocage* and then to the water-logged frontiers of Holland and Germany. Interest in what might have tended to become a rather monotonous tale of endeavour is maintained throughout by presenting a consistently clear picture of how a division ' works ' : and, as the 8th Armoured Brigade became a ' partner ' of the 43rd, the descriptions of battle sometimes include a glimpse of the tank in action. Much to be commended are the accounts of the " O " Group meetings and, among the appendices, the table showing the normal distribution of all units of the Division during operations.

As is to be expected, one lights upon numerous episodes known to few outside the Division. Landing at the Normandy beaches could be a hazardous business even seven weeks after D-day, as witness the tragic fate of the 43rd Reconnaissance Regiment whose ship was blown in two. Also, the passage of the Seine was a difficult and sternly contested affair, at any rate so far as the infantry and sappers were concerned.

The appendices include a complete Order of Battle and a list of Commands and Staffs ; and it was a happy thought to preserve the names of the Canadian regimental officers who served with the Division. There are 35 well chosen illustrations. The sketch maps would have gained in appearance and clarity had they been redrawn before reproduction. General Essame anticipates the honour conferred upon the Hampshire Regiment which did not become ' Royal ' until 1946.

Algiers to Austria : A History of 78 Division in the Second World War. By Cyril Ray. (Eyre & Spottiswoode.) 25s.

The 78th Division enjoyed a deservedly high reputation in the Mediterranean theatre. It was composed of units from London and other parts of England, and from Scotland, Ireland, and Wales, and became welded into a formidable fighting machine which, under three successive commanders of distinction, preserved its high efficiency through several years of war. First, in Tunisia, the 78th was called upon to bear the brunt after our efforts to forestall the Germans had failed. To this period belong the ordeal of the 2nd Hampshires near Tebourba and the actions of the 2nd Coldstream Guards and 8th Argyll at Longstop Hill. Then comes Sicily, where the capture of Centuripe is justly acclaimed as " a fine feat of arms." And so to Italy. From September, 1943, until the end of the war the Division bore its share—perhaps more than its share—of dogged arduous struggle by river and mountain, and underwent the hardships of two Italian winters. There was heavy fighting during the advance up the Adriatic coast, in the breaking of the Liri valley defences below Cassino, and in the forcing of the Argenta gap, prelude to the final defeat of German arms on the banks of the Po.

All these things and many other relevant matters are faithfully and appreciatively recorded by Mr. Ray, who as a war correspondent followed the campaign in Italy and had plenty of opportunity to see the 78th Division in the field. With the assistance of many officers who possess first-hand knowledge of various actions and events, Mr. Ray has written a volume which should be a source of pride and satisfaction to any who served under the sign of the Battle Axe, no matter in what unit or what capacity. For this is a true divisional story.

What happened in Austria is related by Major-General R. K. Arbuthnott, the last of the divisional commanders. He tells how one brigade, after emerging from a welter of Germans and Italians, encountered Russians, Bulgarians, Slovaks, Croats, and Jugoslavs, " sorted out the situation," " prevented several minor wars," and afterwards held race meetings. This is all in the right tradition of the British Army on whatever foreign soil it may happen to be.

An Order of Battle of major units only does not make clear that the 1st Kensington Regiment was the divisional machine-gun battalion, as one may presume it was. The photographs, beautifully printed in collotype, are all of particular divisional interest, and the sketch maps which are mostly in two or three colours fulfil their purpose admirably. The index is confined to persons and place names.

Golden Arrow. The Story of the 7th Indian Division. By Brigadier M. R. Roberts, D.S.O. (Gale & Polden.) 25s.

The 7th Indian Division was formed at Attock in October, 1940, and for two years suffered trials and frustration. But when given the opportunity the Division, like its namesake of 1914-1919, achieved fame—it was at the hands of this formation that the Japanese in Burma "first experienced the bitterness of defeat in a major enterprise." The author has succeeded in giving a vivid account of the exploits of this fine formation, an adequate background of events, and good descriptions of terrain. The narrative is of absorbing interest and provides much food for thought, both tactical and psychological.

The Division, preparing to play its part in the Arakan offensive at the beginning of 1944, and having already disposed of several legends, was in touch with the main enemy position on 4th February when the Japanese offensive, planned to herald the "March on Delhi," opened. This led to the "Battle of the Boxes" and our counter-attack, after which the Japanese never regained the initiative in the Arakan. Owing to the situation in Assam, however, no respite was possible for the Division, and it moved, partly by air, to join in the fighting round Kohima, the Imphal Road, and the monsoon pursuit. Apart from continuous strain the physical effort was tremendous, but it was not until August that the Division could be concentrated at Kohima to rest, refit, and then to train for the next operation.

The approach march and crossing of the Irrawaddy by 7th Division in January—February, 1945, are well narrated and additional detail is given in an appendix. Much depended on the success of this operation, which was an essential preliminary to the quick thrust South of Mandalay, afterwards described by the enemy as the "Master Stroke." This task completed, the Division pushed on southwards, and continued to advance until the final action destroyed the remnants of the enemy forces in the marshes of the Sittang Bend.

"It is fast becoming a maxim that military histories are of interest only to those who helped to make that history," writes Field-Marshal Sir W. Slim in his foreword, but he adds: "This book, I venture to predict, will be one of the exceptions to that rule." For this is a good book which bears the mark of careful preparation and which needs—and deserves—thorough study. The volume (304 pages) is well produced and sensibly illustrated, the maps and sketches are well placed for reference, the air photographs and appendices are a valuable adjunct, and the potted histories of units serving in the Division most apposite. It should do much to counteract some of the nonsense about the Burma Campaign in print and on the films.

Battery Records of the Royal Artillery, 1716-1859. Compiled by Lieut-Colonel M. E. S. Laws, O.B.E., M.C., R.A. (Retd.) (William Clowes & Sons.) 50s.

The author of this very valuable book has limited its scope to the records of the old marching companies' of the Royal Artillery during the years under review. Similar data relating to the troops of the Royal Horse Artillery can be found in Colonel Mitchell's well-known work, and since the companies of artillery raised by the East India Company did not enter the British service till after the Mutiny, they are not referred to.

To prepare this book, Lieut.-Colonel Laws has not only had access to a very large number of contemporary service records, but has based his results on the almost complete series of artillery muster rolls and pay lists now preserved in the Public Record Office

He has, in fact, examined each of the latter for each company for each month of the 143 years with which he deals. The facts to be deduced from this source are unshakeable and the data as now recorded is final.

The results of this immense labour are shown in a series of yearly charts from which it is easy to trace the career of each company by the system of serial numbers allotted. The explanatory notes are very full and clearly indicate the services of each company in all the campaigns of the period, both ashore and afloat. In the latter category the close affinity of the Regiment with the Royal Navy is remarkable, and even if 'service in the bombs' was not popular with the gunners, a brotherhood was established which has grown stronger as the years have passed.

The fact that at the time it was customary to identify each company by the name of its captain and that these officers were changed constantly through promotion, transfer, or casualty in action, has tended to confuse historians as to which unit was in fact engaged. All have avoided the research required to establish the facts which are now made available to students of the period. The thanks of all are thus due to Lieut.-Colonel Laws for having filled in this gap in our knowledge and to the Committee of the Royal Artillery Institution for having published this book, so making the results of his work accessible to a far wider public than the regiment primarily concerned.

The edition is a limited one and the high costs of production render it unlikely to be repeated, so that all interested should take this opportunity of acquiring a copy of this book.

Sappers in the Persian Gulf. By Colonel W. H. Adcock, B.Sc., M.I.E.E., A.M.I.Mech.E. (Bombay, Thacker & Co.; London, Gale & Polden.) 18s.

As the author has explained, this book has been written for a specialized and limited public, namely engineer officers and other ranks, particularly those who served in Iraq or Iran during the late war. He modestly states that it is only semi-technical, and in no sense a text-book of the E. & M. branches of engineering. For all that, many of its pages may prove to be rather too technical for the general reader.

This does not imply, however, that there is nothing here of interest to non-sappers. On the contrary, budding staff officers and future commanders, particularly those destined to plan or conduct desert operations, will find, if they skim discernedly through the technical details, much that they ought to take to heart. We find here the same old stories of inadequate planning or provision, resulting, for example, in the arrival in Iraq of miles of pipe-line without any lead or yarn for caulking the joints! How fortunate that bazaars exist in the East to counteract these little slips in staff-work!

We find also instances of gruelling work by regimental soldiers wasted by last-minute changes of plan by someone at headquarters. Colonel Adcock recounts these incidents without bitterness, simply as a factual narrative by the man whose unit had to do the work.

The student of military history will find useful data on the build-up and maintenance of Russian strength in the Volga area, and the extent to which the victory of Stalingrad was due to L. of C. work by British, American, and Indian forces in Persia and Iraq.

Those who have had the great privilege of commanding Indian troops will find nostalgic joy in reading of the fine work which they performed, and will appreciate the author's sense of proportion in recording by name many V.C.O's, havildars, and naiks, who rendered outstanding service. It was a happy and fitting gesture to dedicate the book to that magnificent fighting man, the Indian Sapper. The book has many fine photographs, and is adequately indexed and mapped.

The History of The Royal Northumberland Fusiliers, 1939–1945. By Brigadier C. N. Barclay, C.B.E., D.S.O. (W. Clowes & Sons.) 26s.

This is the story of the famous old 'Fighting Fifth,' whose battalions served in every theatre of war, except Burma. The Regiment, nominally a machine-gun unit, had a multiplicity of roles and suffered several re-organizations. One establishment foisted on the 2nd Battalion in 1942 was fortunately so fantastic that it quickly disappeared.

The volume is well-arranged, mainly in chronological order, and presents a very clear account of the services of the battalions whose sub-units, owing to the nature of their role, were usually widely dispersed. Yet the author succeeds in giving a view of the splendid services of the Regiment as a whole against an adequate background, and with due attention to *esprit-de-corps*. There is also an excellent chapter on the organization of machine-gun units.

In 1940, the Regiment was represented in North-West Europe by the 2nd, 4th, 7th, 8th and 9th Battalions, and in 1944–1945 by the 7th and 8th Battalions, as well as the 4th, by then split into three independent machine-gun companies. The 9th Battalion, captured at Singapore, behaved most creditably whilst prisoners of the Japanese, and it is recorded that, on release, every man still had his cap-badge.

The 1st Battalion fought almost continuously throughout the war. It took part in Lord Wavell's early victories in Libya; the defence of Egypt, including the first siege and breakout from Tobruk; the advance to Tunis; and finally, in Italy. For their services at El Duda in November, 1941, the officers and other ranks of "Z" Company were awarded one V.C., two M.C.s, three D.C.Ms, and six M.Ms.—surely a record for operations lasting only a few days. The 4th Battalion also rendered distinguished service at Knightsbridge in 1942, where it was practically destroyed.

Arriving too late to serve in the North-West African campaign, the 2nd Battalion took part in the landing at Salerno. After much hard fighting in Italy the unit went to Greece in December, 1944, with 4th Division.

The book (some 240 pages) is well produced, with good illustrations, sketch maps, and index. The appendices contain much detailed information and also cover the 1st Battalion's recent tour of duty in Korea. The record of service described is one which all concerned may be proud of, and which should serve to inspire all ranks of the Regiment in the future.

From Pyramid to Pagoda. By Lieut.-Colonel E. W. C. Sandes, D.S.O., M.C. (Published privately.)

This handsome volume of some 300 pages and 27 good sketch maps tells the story of the West Yorkshire Regiment during the War of 1939–1945 and the early post-war years. It is mainly concerned with the Regular battalions, as the others were employed mostly on garrison duties. Both Regular battalions served in Burma and actually met at Imphal. The book is arranged to give a continuous narrative of the service of each battalion in turn and the background of events affecting them, but there is a good deal of repetition.

The 1st Battalion disembarked at Rangoon on 31st January, 1942, took a leading part in the early fighting, and in the long, dreadful retreat through Burma served mostly in the rear-guard of 17th Indian Division. Reaching Imphal in May, much under strength and full of malaria, the battalion was moved to India in September to refit and retrain. Back at Imphal in January, the battalion fought and *navvied* on the Tiddim Road and helped to defend Imphal during the Japanese "March on Delhi." Late in 1944, the unit went back to India for recuperation and afterwards served throughout the final dash to Rangoon. A fine record but equalled, if not excelled, by the 2nd Battalion.

Serving with 5th Indian Division, the 2nd Battalion first went into action in the Sudan and, early in 1941, earned much distinction in the capture and defence of Fort Dologorodoc, the key of the Keren position. Arriving in the Western Desert following a period of wandering about the Middle East, and after fighting in the disastrous action of 5th June, 1942, the battalion, much under strength, was heavily engaged in the defence of the El Alamein position in July and August. After another visit to Iraq, the 5th Division moved by stages to the Arakan in time for our offensive of January, 1944. In the following month the battalion did yeoman service in the defence of 7th Division 'Admin Box' before being flown to Assam to take a strenuous part in the defence of Imphal. There followed hard service on the Tiddim Road, at Meiktila, and the final advance to Rangoon.

The Colonel of the Regiment, Field-Marshal Sir W. Slim, remarks in his foreword: "If you regard tradition as something which forbids you to do anything for the first time, it is an enemy of progress. But if you regard tradition as a standard of conduct, of valour, and of honour, below which you will not fall, then it is a sure foundation on which to build greater achievements still." The author succeeds in showing in his narrative how strong was the regimental and county spirit of both battalions, and how they remained unbroken either by the enemy or the appalling conditions. This splendid story should be a source of inspiration to all ranks of the Regiment, past, present, and future.

The Royal Irish Fusiliers, 1793–1950. By Marcus Cunliffe. (Oxford University Press.) 42s. Orders should be placed with the O.C. Depot, Armagh, Northern Ireland.

Month by month the shelf of regimental histories grows in length as more regiments produce their stories. The latest to join the shelf is that of The Royal Irish Fusiliers, finely written by Marcus Cunliffe and beautifully produced, as one would expect, by the Oxford University Press.

Mr. Cunliffe has, indeed, a fine story to tell in this history of one of the great line regiments of the British Army. He traces it to its first beginnings in 1793 as the 87th and 89th Regiments of foot, and takes the two Regiments along their respective roads until, in 1881, they were linked under the Cardwell reforms to form Princess Victoria's Regiment (Royal Irish Fusiliers). By this time each had already travelled far throughout the world and had fought in most of the great battles of the past hundred years. North and South America, the West Indies, Spain and Portugal, Flanders, Java, India, Canada, Crimea, and Burma had all seen the men of the two Regiments, and at the Battle of Barrosa the 87th had won undying fame.

Both battalions of the Regiment fought in the South African War, and during the 1914–1918 War five more battalions were raised, to make seven in all. They fought in France, Gallipoli, Palestine, and Salonika to gain yet more honours for the Regiment. From 1939 to 1945, the two Regular battalions were fully engaged, the 1st being in the retreat to Dunkirk and then with the First Army in North Africa. From there they went to Sicily and so on to Italy, fighting up the whole length of that rugged country. The 2nd Battalion took part in the siege of Malta and were also in the ill-fated attack on Leros, in which almost the whole battalion was captured. Two other battalions were raised during the war, but saw no service overseas.

It is a stirring story, told with just the right amount of historical background as a frame to bring the regimental story into its proper perspective. There are eight appendices, an excellent index, and 21 maps which amply illustrate the travels and achievements of the Regiment. Among the 16 illustrations are four in colour. The Royal Irish Fusiliers are fortunate indeed in their historian, who has produced a fine history of this fine Regiment.

Sherwood Rangers. By T. M. Lindsay. (Burrup, Mathieson and Co.) 30s.

The Yeomanry regiments of England have earned for themselves a magnificent tradition of skill and courage, and it is good to see their deeds commemorated as they produce their regimental histories. Operating as cavalry in the past wars, they have been justly renowned for their dash and their hard-fighting qualities.

The Sherwood Rangers, with some of this fine tradition behind them, were still cavalry in 1939 and for most of 1940, being stationed at the beginning of the war in Palestine. But modern warfare has no place in it for the horse, and it was not long before the Regiment was mechanized. For a brief interlude it acted as a coastal defence unit, manning guns at Tobruk and in Crete.

It was at Alam Halfa that the Regiment had its first chance to show its paces as an armoured unit, followed shortly afterwards by the Battle of Alamein where, as part of the famous 8th Armoured Brigade, it suffered heavily on Miteiriya and Kidney Ridges.

From there the brigade was in the forefront of the fighting throughout North Africa, taking part in the successful left hook which turned the Mareth Line.

After training at home, 8th Armoured Brigade supported the Normandy assault on D-day, landing in D.D. tanks. The Sherwood Rangers fought throughout the campaign in North-West Europe, finishing the war in Hanover.

This is an excellent regimental history, written in a happy style that ensures easy reading. It is illustrated with a large number of excellent photographs, but there are no maps, apart from four battle plans, and the lack of them sometimes makes it a little difficult to appreciate the vast distances covered by the Regiment in the course of its travels.

History of the Army Service Corps. Volume I. The East India Company, 1760-1857. By Brigadier Humphry Bullock, C.I.E., O.B.E., F.R.Hist.S. (Published for the Corps by Gale & Polden).

This first volume studies the evolution of the Army Service Corps of India during the period 1760–1857, starting from the comparatively primitive arrangements, whereby both supply and transport services depended on *ad hoc* purchase or hire from civilian contractors, or from an appointed 'agent' of John Company.

The relative advantages of 'contractor' or 'agent' are set out at some length, leading up to the considerations that inspired the formation of 'Commissariat Departments' for the separate armies of Bengal, Madras, and Bombay. The early attempts to form a Regular transport corps are described in some detail (particularly Sir Charles Napier's plan for a permanent camel corps). The author shows clearly the brick wall of apathy, prejudice, and vested interest, against which this and other progressive ideas of the period had to struggle.

Eight campaigns are then described from the special aspect of supply and transport. These are the little-known Nepalese War of 1814, the two Burmese Wars, the Afghan War of 1838-42, the two Sikh Wars, the Persian War of 1856-57, and the Mutiny, with particular reference to the sieges of Lucknow.

Many of the lessons to be gleaned are only of academic interest to-day. British officers are unfortunately never likely to be faced again with the intriguing problems of their predecessors in India—the relative merits of public, or silladar or locally hired, transport cattle, or the respective advantages of camels, elephants, bullocks, mules, or coolies.

None the less, there is much of permanent value to the budding staff officer. We find illustrations of the folly of trying to do things on a no cost basis, the stupidity of postponing precautionary measures for fear of exciting the enemy into action, and, perhaps the clearest lesson of all, the value of a little *esprit-de-corps* and a modicum of discipline and training to change a rabble of drivers into a reliable and manœuvrable unit. This will always hold good, whether they drive camels, lorries, or helicopters.

Apart from practical value for military technique the book is of absorbing historical interest. The history of such a corps is much more than a mere regimental history. It is a history of armies. The author has spared no trouble in his checking of relevant facts, and the result is a worthy historical record. It is a pity that there are no maps to illustrate the campaigns, but perhaps they will appear as a separate map-volume for the whole series.

AIR

Jane's All the World's Aircraft, 1952–1953. Compiled and edited by Leonard Bridgman. (Sampson Low.) 84s.

This annual milestone of military aviation is not only as good as ever: it is improved by more space being devoted to aircraft, and less to foreign air forces. Page numbers now run consecutively throughout the volume, instead of numbering by sections, and there is a general index much better than any previous one, as it provides references to

volumes from 1945 onwards, where aircraft are still in service but not in production. There are 324 pages of text and illustrations, and of the 573 pictures of aircraft, 311 are new. The aircraft section has been corrected up to 31st July, 1952, but the supplement, or addenda, includes illustrations and information released up to 30th September, 1952.

Production of aircraft in the U.S.A. is stated in the preface to be about 10,000 aircraft annually; and that of the Russian light-weight fighter, the MIG-15, at about 5,000 annually. Engineers think of aircraft output in terms of pounds of structural weight; and on this basis, present U.S.A. output exceeds the peak of their war effort. On this basis also, Boeing's 80-ton, 600 miles-per-hour 'atom-bomber', now emerging at the rate of one a day, represents a greater productive effort than the 5,000 MIGs per annum. Besides, by our standards, the MIG would be regarded as under-equipped. On page 154, the book says: "the U.S. pilots have been able to maintain superiority principally by their better training, greater aggressiveness, superior gun-sights, and the use of the G-suit."

The term 'atom-bomber' was first applied to the B.47 in 1948: it has flown 2,000 miles at a speed of 608 miles an hour, propelled by six turbojets; and its bomb bay will take the atom bomb, say, 10 feet diameter by 22 feet long. Now there are several bombers of this type, including the Avro Vulcan delta-bomber illustrated in the supplement, the Short Brothers' S.A.4, illustrated on page 78, the Vickers Valiant on page 84, and, most recent of all, the Handley Page H.P.80 with scimitar wings. In the U.S.A., Boeing themselves have produced a larger and faster bomber, the B.52, with eight jets of about 10,000 pounds each of static thrust or, at 600 miles per hour, 130,000 h.p available beneath the throttle-hand of its pilot. Convair make an even bigger eight-jet bomber, with swept wings 206 feet in span and a total weight exceeding that of our Bristol Brabazon. Not fully described in *Jane*, the Douglas XA3D-1, intended for carrier attack, is the largest carrier-borne aircraft, and is "the first aircraft specially designed for delivering the atom bomb," presumably from a carrier.

The Hawker Hunter has been described by a generous American critic as "the finest fighter in the world"; and certainly it must be the most beautiful. The graceful lines of the fine illustration on page 70 do not disclose much about type and position of armament. But the interception of 600-miles-per-hour bombers at 50,000 feet, or the search for a black night-fighter against the permanently dark sky at altitude, will present new problems; and the U.S.A. have produced two all-rocket fighters. The Lockheed Starfire has "twenty-four 2.75-inch rockets housed in a ring of firing tubes around the nose, and 1,200 pounds of electronic equipment, including automatic locating, tracking, and firing instruments"; the latest Northrop Scorpion has its rocket armament in large wing-tip containers, with electronic aiming and automatic triggering system.

On page 271 of this new *Jane*, there is a list of senior executives of the General Electric Company's Engine Division at Lockland, Ohio, including Mr. D. R. Shoults, manager of the Aircraft Nuclear Propulsion Project. Atomic propulsion development is now in its fifth year in the U.S.A., and engine projects are in hand with General Electric and with Pratt and Whitney. The aircraft would be made by Fairchild as landplanes, and doubtless by Convair as flying boats. Mr. Knowler, chief designer of Saunders-Roe, has estimated that the reactor unit and screening might weigh 100 tons, requiring a flying boat of say 200 tons gross. On page 217, the editor refers to the mammoth Hughes flying boat of 180 tons, not recently flown, which shows that an even bigger Convair boat is well within the bounds of possibility.

On the same page, there is mention of a helicopter powered by two gas turbines, a sort of flying-crane which will lift ten tons. Since the book went to press, this enormous vehicle has been flown.

Mr. Leonard Bridgman is to be congratulated on the high standard, year by year continuously improved, of this invaluable book of reference.

ADDITIONS TO THE LIBRARY

(*Books for Reference in the Library only)

GENERAL

ACROSS THE SPACE FRONTIER. Edited by Cornelius Ryan. Crown 4to. 147 pages. (Sidgwick and Jackson, 1952.) 21s.

ANNAPURNA. The first 8,000 metre Peak (26,493 feet). By Maurice Herzog. Crown 8vo. 288 pages. (Jonathan Cape, 1952.) 15s.

STANLEY BALDWIN. By G. M. Young. Demy 8vo. 265 pages. (Rupert Hart-Davis, 1952.) 21s.

*THE BOOK OF FLAGS. Edited by Vice-Admiral Gordon Campbell, V.C., D.S.O. and I.O. Evans, F.R.G.S. Medium 8vo. 115 pages. (Oxford University Press, 1952.) 15s.

*BRASSEY'S ANNUAL. The Armed Forces Year-Book, 1952. Edited by Rear-Admiral H. G. Thursfield. Medium 8vo. 430 pages. (Clowes, 1952.) 63s. Presented by the Publishers. (See Review in this JOURNAL.)

THE CASE OF GENERAL YAMASHITA. By Frank Reel. Demy 8vo. 323 pages. (University of Chicago Press, 1952.) 30s.

THE CROWDED HOURS. The Story of 'Sos' Cohen. By Anthony Richardson. Demy 8vo. 247 pages. (Parrish, 1952.) 15s. 6d.

ESCAPE TO NOWHERE. By Francis S. Jones. Demy 8vo. 266 pages. (The Bodley Head, 1952.) 12s. 6d.

MY EUROPE. By R. H. Bruce Lockhart. Demy 8vo. 273 pages. (Putnam, 1952.) 16s.

THE EXPLORATION OF SPACE. By Arthur C. Clarke. Large Post 8vo. 197 pages. (Temple Press, 1952.) 12s. 6d.

GREECE AND CRETE 1941. The Second World War. By Christopher Buckley. Demy 8vo. 311 pages. (H.M.S.O., 1952.) 12s. 6d.

HITLER. A Study in Tyranny. By Alan Bullock. Royal 8vo. 775 pages. (Odhams, 1952.) 25s.

IN THE NAZI ERA. By Sir Lewis Namier. Crown 8vo. 203 pages. (Macmillan, 1952.) 12s. 6d.

NEPAL HIMALAYA. By H. W. Tilman. Demy 8vo. 271 pages. (Cambridge University Press, 1952.) 25s.

*OXFORD JUNIOR ENCYCLOPAEDIA, Volume X. Law and Order. Edited by E. Laura Salt and Robert Sinclair. Crown 4to. 496 pages. (Oxford University Press, 1952.) 30s.

A PATTERN OF ISLANDS. By Arthur Grimble. Demy 8vo. 249 pages. (John Murray, 1952.) 18s.

QUEEN VICTORIA AND HER PRIME MINISTERS. By Cecil Algernon. Demy 8vo. 355 pages. (Eyre and Spottiswoode, 1952.) 25s.

ROCKET PROPULSION. By Eric Burgess. Demy 8vo. 235 pages. (Chapman and Hall, 1952.) 21s.

THE RULING FEW. By Sir David Kelly, G.C.M.G., M.C. Medium 8vo. 449 pages. (Hollis and Carter, 1952.) 25s.

JAN CHRISTIAN SMUTS. By his son, J. C. Smuts. Demy 8vo. 567 pages. (Cassell, 1952.) 25s.

SPECIALLY EMPLOYED. The Story of British Aid to French Patriots of the Resistance. By Maurice Buckmaster. Demy 8vo. 200 pages. (Batchworth, 1952.) 12s. 6d.

A SPY HAS NO FRIENDS. By Ronald Seth. Large Post 8vo. 206 pages. (The Carlyle Press, Birmingham, 1952.) 10s. 6d.

SUDAN STORY. By John Hyslop. Demy 8vo. 135 pages. (Naldrett, 1952.) 7s. 6d.

THE WYNNE DIARIES. Passages selected and edited by Anne Fremantle. Foolscap 4to. 551 pages. (Oxford University Press, 1952.) 7s. 6d. (For the first time abridged into one volume.)

NAVAL

*JANE'S FIGHTING SHIPS, 1952–53. Edited by Raymond V. B. Blackman. Foolscap folio. 454 pages. (Sampson Low, 1952.) 84s. Presented by the Publishers. (See Review in this JOURNAL.)

THE NAVAL MISCELLANY. Volume IV. Edited by Christopher Lloyd, M.A., F.R.Hist.S. Medium 8vo. 501 pages. (Navy Records Society, 1952.) 45s. Presented by the Publishers. (See Review in this JOURNAL.)

ONE OF OUR SUBMARINES. By Commander Edward Young, D.S.O., D.S.C., R.N.V.(S)R. Demy 8vo. 316 pages. (Rupert Hart-Davis, 1952.) 18s.

SALUTE THE RED DUSTER. By Commander A. B. Campbell. Demy 8vo. 207 pages. (Christopher Johnson, 1952.) 15s.

SEA DEVILS. Suicide Squad. By J. Valerio Borghese. Demy 8vo. 261 pages. (Andrew Melrose, 1952.) 18s.

H.M. SUBMARINES. By Lieut.-Commander P. K. Kemp. Demy 8vo. 224 pages. (Herbert Jenkins, 1952.) 16s. Presented by the Publishers. (See Review in this JOURNAL.)

ARMY

THE 43RD WESSEX DIVISION AT WAR 1944–1945. Compiled by Major-General H. Essame. Medium 8vo. 291 pages. (Clowes, 1952.) 20s. Presented by the Publishers. (See Review in this JOURNAL.)

ALGIERS TO AUSTRIA. The History of the 78th Division. By Cyril Ray. Demy 8vo. 253 pages. (Eyre and Spottiswoode, 1952.) 25s. Presented by the Publishers. (See Review in this JOURNAL.)

GOLDEN ARROW. The Story of the 7th Indian Division in the Second World War 1939–1945. By Brigadier M. R. Roberts. Demy 8vo. 303 pages. (Gale and Polden, 1952.) 25s. Presented by the Publishers. (See Review in this JOURNAL.)

*BATTERY RECORDS OF THE ROYAL ARTILLERY, 1716–1859. By Lieut.-Colonel M. E. S. Laws. Demy 4to. 313 pages. (Royal Artillery Institute, 1952.) 50s. Presented by the Publishers. (See Review in this JOURNAL.)

SAPPERS IN THE PERSIAN GULF. By Colonel W. H. Adcock. Demy 8vo. 175 pages. (Thacker and Co., Bombay, 1952.) Rs. 10-8. Presented by the Publishers. (See Review in this JOURNAL.)

*THE HISTORY OF THE ROYAL NORTHUMBERLAND FUSILIERS 1919–1945. By Brigadier C. N. Barclay, C.B.E., D.S.O. Crown 4to. 241 pages. (Clowes, 1952.) 26s. Presented by the Publishers. (See Review in this JOURNAL.)

*FROM PYRAMID TO PAGODA. The Story of The West Yorkshire Regiment in the War, 1939–45, and afterwards. By Lieut.-Colonel E. W. C. Sandes. Demy 4to. 305 pages. (F. J. Parsons, 1952.) Presented by the Regiment. (See Review in this JOURNAL.)

*THE ROYAL IRISH FUSILIERS 1793–1950. By Marcus Cunliffe. Royal 8vo. 517 pages. (Oxford University Press, 1952.) 42s. Presented by the Publishers. (See Review in this JOURNAL.)

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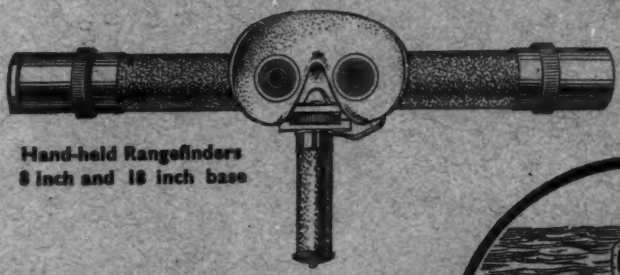

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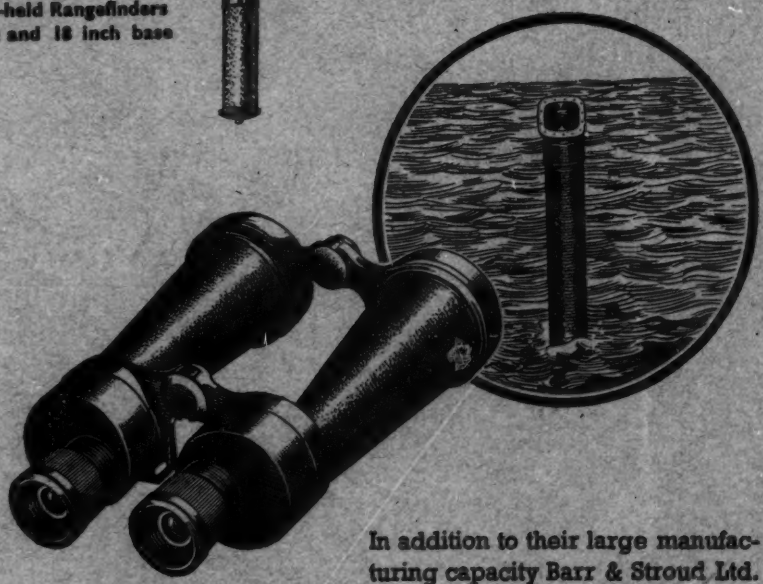

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